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WHITLAW'S
NEW MEDICAL DISCOVERIES,
WITH
A DEFENCE
OF THE
LINNÆAN DOCTRINE,
AND A TRANSLATION OF HIS
VEGETABLE MATERIA MEDICA,
WHICH NOW FIRST APPEARS IN AN
ENGLISH DRESS.

BY CHARLES WHITLAW.

VOL. I.

—◆—
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TO
THE VICE-PRESIDENTS,
THE COMMITTEE,
AND THE SUBSCRIBERS TO THE
ASYLUM
FOR THE CURE OF SCROFULA & GLANDULAR DISEASES
AT BAYSWATER,
UPON THE MEDICAL PRINCIPLES AND UNDER THE
SUPERINTENDANCE OF
CHARLES WHITLAW,
AND TO HIS
ESTEEMED DISCIPLES AND SUPPORTERS
IN THE VARIOUS QUARTERS OF THE GLOBE,

THIS WORK

IS MOST RESPECTFULLY DEDICATED

BY THE AUTHOR.

INTRODUCTION.

MY LORDS AND GENTLEMEN,

At the earnest solicitation of many of my respected friends, I have repeatedly promised to point out to you and the public, the merits of my new discoveries in the healing art, and the great success attending my new system of treatment, in which you have taken so lively an interest for these five years past. It is with the greatest diffidence that I now submit them, being fully aware of the imperfect arrangement, and many grammatical errors which the following pages may contain, arising chiefly from the following circumstances, namely, first my education has been very different from that of most of those persons, who will now take upon them to be my judges; as when they were at college, learning rhetorical arrangement and medical etiquette, I was studying the laws of nature in the forests of America, frequently far remote from the habitations of men; and endeavouring to trace out the causes and effects produced from the various productions of the earth, as applicable to the purposes of life; and particularly to the improvement

of the healing art :—and, secondly, to the great pressure of business, during the compilation of the following pages ; being continually called away by patients almost every hour, during the time I was employed in the task. In addition to which, I may well mention the torrents of abuse which have been poured upon me by many interested and designing individuals, as you are well aware ; for in proportion as the decided benefits of my system of treatment began to extend themselves, so have those persons increased their abuse of me. Now, whatever may be said regarding the grammatical errors and arrangement of this work, I shall take no notice thereof ; neither will I notice any attacks which may be made upon the principles contained in it,—unless, indeed, they may be made by any of the professors or teachers of the healing art, in which case I promise to endeavour to defend my new principles in opposition to any thing they may have to allege against them. I am a faithful disciple and follower of the theory and practice of Linnæus, and I have here given a translation of his *Vegetable Materia Medica*—a work that needs no defence, as it is superior to any other work now extant. Indeed, most of the valuable discoveries in medicine, introduced by other authors as their own, may be traced to the effects produced by the substances contained in that admirable production. With what wonder would Linnæus have viewed the effects produced by my patent vapour-bath, as a new era is created in the healing art from its power ! The humane part of the public will rejoice, when I inform them that ninety at least out of every hundred cases,

can be effectually cured without the aid of mercury, or any other mineral or vegetable poison. And, indeed, in the many thousand cases of the patients I have successfully treated, I have used no poisonous medicines, except perhaps in twenty instances: and the generality of my patients have been cured in much less time, without the employment of poisons, than can possibly be done in the ordinary practice. How would Linnæus have rejoiced to find that mankind could nearly dispense with the employment of narcotic, acrid, and corrosive poisons! I am quite convinced that the time is not far distant, when poisonous substances may be entirely dispensed with: then, and not till then, will the millennial happiness begin!

It is with the most heartfelt gratitude that I have to acknowledge the distinguished patronage which I have received, both in this country and in the United States of America. No less than the second personage in this kingdom (the late lamented Duke of York), and the late Governor of the State of New York, (Dewitt Clinton), became my most zealous patrons. The late celebrated Dr. Hamilton, President of the Hunterian Society, to use his own language, observed, that my vapour-bath and alterative medicines were the greatest discoveries ever made in the healing art. Dr. Thornton also, the celebrated botanist, has continually devoted his time and talents, as a member of the Committee, from the commencement of the society, and has, on every occasion, come forward to defend the cause of truth. Many other medical gentlemen have likewise treated me in the most liberal manner: to them I beg leave to return my most

grateful acknowledgements. From those who merely labour for the sake of the pounds, shillings and pence, I never expect to experience either friendly connection or kind treatment ; and the more especially as my chief object is the public good ; well knowing, that I shall be certain of receiving a sufficient support to answer all my moderate wants, which are but few. And I sincerely hope, that the important benefits resulting from my labours may descend to posterity.

I am,

My LORDS AND GENTLEMEN,

Your most obedient and faithful Servant,

CHARLES WHITLAW.

14, *Finsbury Place South* ;

May 14, 1829.

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ON THE
STRUCTURE
OF THE
HUMAN BODY.

BEFORE we enter upon the prevention or cure of disease, it may not be improper to take a popular view of the structure of the human body, and more particularly the functions immediately connected with life. Besides those materials of solids and fluids, which compose the human fabric, there may be added a sentient and vital principle pervading the whole.

The vital principle, in animated bodies, possesses greater degrees of force and perfection in proportion as the organization of those bodies is complete. How great is the difference between the vivacity of childhood and the caution and fearfulness of age! Whatever may constitute the living principle in animals remains a mystery to this day, and probably ever will to the end of time; but it is clearly manifest that the production of life is the noblest effort of Omnipotence, and the centre in which all His other operations terminate: and when we contemplate the structure of the human body, as displayed by anatomy, and there behold in that fair investiture such unity and variety, we must acknowledge that nothing less than a BEING of infinite wisdom and power could have constructed and executed such a wonderful piece of mechanism.

We shall now proceed to give a short account of the external organs of the body, and commence with the *bones*, which are the hardest and most solid organs of the system ;—they form the walls of the building, around which the other parts are disposed, determining its size, proportion, form, and attitude :—they defend the vital organs from external injury :—they support the abdominal viscera, and maintain them in their situation; and are, in fact, the levers, which, when articulated together, enable us to travel over the earth's continent. Bones begin to be formed at a very early stage of existence, and are cast into a variety of moulds and sizes. About the fourth or fifth week of gestation, the thorax or chest is a delicate gelatinous membrane ; and in the sixth, the ribs have the appearance of a spider's web. From this period they rapidly advance to a cartilaginous state, which may be considered the second stage in their transition to bone. Between the eighth and tenth weeks, points of ossific matter are deposited in various membranes ; in those of the cranium, being the rudiments of flat bones, the ossific matter branches around like the radii of a circle, presenting a beautifully feathered appearance. In the long bones rings of bony matter begin to appear in the middle, spreading upwards and downwards to the extremities of the bones. The formation of the annual ring of wood in trees, and the growth in height by the elongation of the annual shoot, beautifully and clearly illustrate the mode in which the long bones are formed. In a state of health the bones are endowed with little sensibility ; but they are surrounded by the periosteum, a membrane exquisitely sensitive, that warns of approaching injury, and preserves the muscles from being fretted by their action. In infancy and early youth the animal properties preponderate ; in middle age they exist in nearly equal quantities ; and as life gradually declines the earthy constituents increase, vascularity is diminished, cohesion leaves them, and they appear

to be preparing to moulder away into that state from which they sprung.

To facilitate the various motions of the bones on each other, their ends are tipped with a beautiful, inelastic substance called *cartilage*, and are firmly tied together by white bands called *ligaments*. Thus the basis of our frame is fitted for locomotion.

But the bones, from their inelasticity, have no power of approximation; therefore it is necessary that a contractile substance should be attached to them, in order to bring their extremities in contact with each other; and this is effected through the agency of the *muscles*, which we commonly call flesh, which is composed of various distinct portions, firmly fixed to the bones by a strong inelastic substance, called tendon, which enables them to act with such power as frequently to fracture the bones themselves when acting spasmodically.

There are various vessels or tubes in the body, named according to the fluids they contain; as blood-vessels, lacteals, lymphatics, &c. The blood-vessels are of two kinds: *arteries*, which carry the blood from the heart to every part of the system, and *veins*, which convey it back again to the heart. These are most important organs of the body, on which all the rest depend for life and support.

The *skin* extends over all these organs, and forms the envelope of the body. It is covered externally by a solid insensible substance, called the *epiderm*, which defends it from the action of the air, which would dry it and make it less sensible if unprotected.

The most important function of the living body is *the circulation of the blood*. Its primary agent is the *heart*, a hollow involuntary muscle, situated in the left side of the chest, and endowed with great irritability. This singular organ is said “to be the first part that moves, and the last that dies,” of the animal machine. By destroying an animal with a little

prussic acid, it is observable that the motion of the heart not only survives that of the organs of voluntary motion, but continues a considerable time even after it is separated from the body. Hence in drowning or suffocation, though the pulse be imperceptible and apparently extinguished, yet the heart still preserves this latent power, or susceptibility of motion, and wants only to be gently excited by suitable means to renew its action.

This *organ*, the heart, is surrounded by the *pericardium* or *capsule*, an exceedingly strong membrane which covers it even to its basis. Its uses are to direct the heart in its motions, to afford it liberty, and to prevent friction by secreting a fluid which lubricates its surface.

From the right *ventricle*, or cavity of the heart, the irritability of which is excited into action by the circulating fluid, the blood is propelled through *the lungs*, which are situated on the right and left side of the heart. They are divided into two lobes, and these into more divisions.

The *trachæa*, or *windpipe*, descends into the lungs and forms innumerable cells, which have a communication with each other, and give the whole the appearance of a honey-comb or sponge. The blood in its passage through the lungs undergoes a peculiar change, giving off carbonaceous matter and assuming a vermilion hue. It returns again to the heart by the *pulmonary veins*, and is propelled from the left *ventricle* or cavity into the aorta, or great artery, which, giving off branches, disperses the nutrimental stores to the meanest member and minutest part of the body. When this vital fluid has pervaded every part, and given each its proper juice, it is met by the ends of the veins, and by them reconducted to the heart.

The heart is the grand organ which actuates the vital functions; and to this purpose it is admirably fitted by its own irritability: but it is necessarily

supported in its action by the powerful influence of the nerves, which are the ultimate instruments both of motion and sensation, and have their origin in the brain.

A fleshy and membranous *septum*, called the *diaphragm* or midriff, parts the cavity of the thorax or chest from the cavity of the abdomen or belly. This midriff is, like the heart, in constant motion, being a muscle both of voluntary and involuntary action. It is a chief agent in respiration: when its fibres contract, its convex side towards the thorax becomes flat, and by thus increasing the cavity allows a complete dilatation of the lungs by the air filling them in respiration. The fibres of the diaphragm then relax, and the cavity being diminished, the air is driven out, and this is termed expiration. The diaphragm acts in assisting various efforts of nature;—and coughing, sneezing, gaping, sighing and weeping, could not take place without its assistance.

The *æso-phagus*, or gullet, is a membranous and muscular bag, extending from the bottom of the mouth to the stomach. The inner surface is a smooth membrane, well supplied with mucilage to sheath the organ, and render the passage of the aliment or food more easy.

The *stomach* lies across the upper part of the abdomen, and beneath the liver. It somewhat resembles in figure the pouch of a bag-pipe, its upper side being concave and the lower convex. Its left end is the largest, and on this side is the entrance from the gullet; on the right side is the opening called the pylorus, by which the chyle passes into the intestines. The stomach has been emphatically denominated the conscience of the body: it will convey action to the most remote part of the system for its benefit, and will be also affected by sensations induced on different parts distant from itself,—so close is its union with other parts, and its sympathy with the well-being of our frame.

The *intestines* are destined to receive the food from the stomach, and, after exposing the useful part of it to the lacteals, a set of extremely small vessels, convey the remainder of it out of the body. The intestinal canal is usually six times the length of the individual ; it is curiously convoluted and is extremely irritable. Though but one long circumvolved canal, the upper portion is called the small intestines, and the lower part the large intestines. In the small intestines there are numerous plaits to detain the food, and allow a larger surface for absorption. These are larger and far more numerous near the stomach, where the food is thinner, than they are towards the other extremity. At the entrance of the small intestines into the large, there is found a valve which permits the food to descend, but opposes its return.

The *liver* is the largest gland in the body, situated immediately under the vaulted cavity of the midriff, chiefly on the right side and somewhat on the left, over the stomach. It is suspended and maintained in its situation by various bands called ligaments. The ancients thought the liver was destined to prepare and perfect the blood, but it is now evinced to be a glandular substance, formed for the secretion of the bile.

The *gall-bladder* is a little bag of a pyriform shape, situated under the great lobe of the liver. Its fundus is raised by a fulness and depressed by the emptying of the stomach. Its use is to serve as a receptacle for the bile.

The *spleen*, or milt, is situated in the left side, immediately under the edge of the midriff, above the left kidney, and between the stomach and false ribs. Its use is still problematical.

The *pancreas*, or sweetbread, is situated transversely under the stomach. Its shape resembles a dog's tongue. Along the whole length of it there is a duct, which terminates in the upper part of the

intestines near the stomach. Its liquor is mild and insipid, somewhat like saliva, and serves to dilute the alimentary pulp, and to incorporate more easily with the bile.

The *kidnies* are two, situated in the loins, contiguous to the two last ribs; the right under the liver and the left under the spleen. Their structure is curiously fitted for secreting the urine which is conveyed from each of them by canals, termed the *ureters*, into the bladder, the reservoir of that fluid, situated in the lower part of the belly. The ureters are curved in their course to the bladder, which they enter obliquely, which promotes the discharge, while its return is prevented.

Last of all comes the *peritoneum*—a strong membrane, capable of considerable extension. It prevents the attrition of the viscera upon each other, and envelopes almost the whole of them. Over the upper part of the abdomen is spread the *omentum*, or caul, consisting of duplicatures of peritoneum, joined together by cellular tissue, in the cells of which a quantity of fat is deposited. It hangs down loose, and floats on the surface of the intestines; its softness prevents adhesion of the viscera and serves other important uses.

Such is a general view of an organized body endowed with a principle of motion, and furnished with the power of nutrition.

The *sensitive faculties* are next to be displayed. The offices of the *brain*, whatever may be their number and diversity, and however different they may appear from all the other phenomena of life, are the effects of stimuli as well as those of the body; and the more the *mind* is excited to action the more is *vitality* exhausted. The *mind* has a very great influence on the body, and impressions made upon the one instantly affect the other: the principle that gives all our sensation, when much affected by the operations of the mind, becomes weakened if the

intellectual faculties are acted upon by reflection, or impression of any kind to excess. It is not surprising, therefore, that debility of the system is induced from too much thought and intense study. The brain is the organ of the mind, and the great laboratory where the nervous influences which actuate our frame, are supposed to receive their existence.

The *skull* is the receptacle of the brain. It is divided into two portions, the *cerebrum* and *cerebellum*; the former situated in the front and lateral part of the skull, and the latter in the posterior part and under it. All the *nerves* derive their origin from the brain and spinal cord, which is only an elongation of the brain, and are spread over every part of the body endowed with sensibility, by innumerable filaments. Nine pair of nerves issue from the brain itself, and thirty-one from the spinal marrow. They are white, firm, fibrous cords, found accompanying the arteries in their course, and generally lying external to them, in order that they may warn us of approaching injury before it has penetrated a vital part. The nerves are supposed to be tubular, containing an exquisitely fine and active fluid elaborated from the brain, by which a communication is maintained with every part of the system.

Whether an immaterial and invisible being can positively be said to exist in any place, it might appear presumptuous to determine: but it is the prevailing opinion in physiology that the brain is the seat of the soul. Human vision can discover no signs to confirm this opinion, as we know nothing of the soul beyond what revelation has informed us; we have no chemical test that can reach its essence; no glasses that can trace its mode of union with the brain; but the man would be blind, and utterly void of understanding, who could not trace through the whole of the animal system the most evident marks of *Divine intelligence* and wisdom; of intelli-

gence which excites admiration, and of wisdom beyond conception.

The wonderful contrivance exhibited in the human frame is, if possible, still more manifest from the curious formation of the *eye* and *ear*; of which only a very imperfect idea could be conveyed by verbal description. The apparatus of vision and of hearing is extremely complicated; in the other senses it is very simple. The senses alone inform us of our existence: they establish our relation with surrounding objects, and are the sources of all our pleasure and pain. By *sight* man's enjoyments are diffused into a wide circle: that of *hearing*, though less widely diffused, nevertheless extends his powers. The sense of *smelling* is more contracted still; and the *taste* and *touch* are the most confined of all. Without the *eye*, the book of nature would have been no better than a vast unmeaning blank; without the *ear*, the music of the woods must degenerate into sullen silence. Without the sense of *smell*, the breath of flowers and fields must lose their reviving fragrance; and fruits of every radiant hue would hang suspended on the boughs, but all in vain for us, if kind Providence had not endued us with a sense of *taste*.

We shall conclude this imperfect sketch of the human body with a brief account of *digestion*—that most important process in the animal economy—by means of which the continual and unavoidable waste of the constitution is regularly supplied. If we may judge of the importance of any function, says a celebrated physiologist, from the number and variety of the organs that are essential to it, digestion ought to be placed in the front rank; no other function of the animal economy presenting so complicated an apparatus. The aliment being received into the mouth, the first operation it undergoes is to be masticated by the action of the teeth and several muscles. This *mastication* is of greater moment than is generally

imagined ; and the good effects of it are further promoted by mixing with the food a quantity of *saliva*, secreted by the glands of the mouth, and which is greatly conducive to digestion. When the food is carried down the gullet, it there meets with an additional supply of juices of a nature yet more efficacious than the former. During its continuance in the stomach, it experiences the effects of heat and muscular action from the coats of that organ and surrounding parts ; these co-operate with the *saliva* and *gastric juice* in transforming the aliment into *chyme*. It thence passes out gradually by the right orifice of the stomach, and there receives a quantity of bile from the *gall-bladder* and *liver*, besides the *pancreatic-judge*, and fluids secreted by the intestines. It now receives the action of the bowels or the peristaltic motion, by which they churn, as it were, the whole mass ; minutely mixing together the food and the different juices collected in its passage from the mouth. A fluid is now produced called *chyle*, which is separated from the grosser materials, and taken up by a set of extremely small absorbent vessels called *lacteals*. These have their origin in the inner coat of the intestines, and passing thence, discharge themselves into a duct named the *receptacle of the chyle* ; whence this fluid proceeds along the *thoracic duct*, which terminates in a *large vein* near the neck. To prevent the *chyle* from falling back in its progress through the *lacteals*, the construction of these vessels is admirably contrived. They are furnished with a number of *valves*, which open only forwards, and are shut by any fluid pressing backwards. From the *left subclavian vein*, the *chyle* is poured into the blood, and thence immediately thrown into the right auricle and ventricle of the heart, from which, now mixed with the blood, it passes into the lungs. It undergoes in that organ a considerable change from the act of respiration. From the lungs it returns through the pulmonary veins to the left auricle

of the heart, and then into the left ventricle ; whence, endowed with all the qualities of blood, it passes into the aorta, and is diffused universally through the frame ; the wants of which it is fitted to supply by the addition of nourishing particles.

Is it possible to contemplate this admirable mechanism without bursting forth in the exclamation of the psalmist :—“ *I am fearfully and wonderfully made :*” or in the language of Galen, who, contemplating with a philosophic mind the order, disposition and conulative uses of the different parts of the body, exclaimed, “ *Herein I acknowledge and praise my Creator, that he has been pleased to adorn his works beyond the power of art.*” We may justly add, that, considering the great variety of ways in which the human body may be affected, both from without and within ; with the necessity for the perpetual motion of the vital powers, and the millions of vessels, invisible to the naked eye, through which the fluids ought to pass, it is a matter of real astonishment that we should subsist a single day ; and doubtless it would be impossible, were not the machine constantly sustained by the same Almighty and Beneficent Being who formed it.

Having given a short description of the structure of the human body, more particularly the vital organs, the object of the following pages is to point out how they may be kept in a healthy state, and to remove the various diseases that so frequently assail us through the journey of life. The various and contradictory opinions that have been promulgated, in all ages, by the real and pretended professors of the healing art, and the innumerable volumes of absurdities that have been sent forth to the world, tend only to puzzle and perplex the understanding ; and prove to men of sober reflection, that their

authors were estranged from the laws of nature, and following their own vain imaginations they endeavoured to persuade unfortunate man, that the healing art is a complex and intricate study: were it so, as they would have it, it would be a reflection on the goodness of the Deity: but I can lift up my heart with gratitude and admiration to that Divine Power, and declare to every man, that our Heavenly Father's goodness shines so conspicuously in his works of creation and providence, that if mankind would but study them, disease would, in a great measure, be banished from the earth. The laws of life and health are easily understood, and might in a short time be taught, at a moderate expense, to the great bulk of mankind, could interest and prejudice be removed. That so desirable a purpose may be effected it is the object of the following pages to point out; and to this it end may be of importance to take a view of the wisdom of our forefathers, and compare it with the conceptions of the present age. I shall therefore give an extract from Salmon's compilations of the specific action of plants on the human body, as observed by the most eminent physicians from Hippocrates to the reign of Queen Ann. The following is a reprint from the introduction to his "Family Herbal," clearly pointing out their united belief in the doctrine of the humoral pathology, the mechanical operations of nature, and the laws of chemical affinity, especially the chemical affinities of plants—so necessary to the right understanding of the healing art.

S A L M O N

ON THE

PHYSICAL POWERS OF PLANTS.

WE give the various qualities of each plant, by which an estimate may be given in gross of their virtues, and to what diseases they may be properly applied, or may be helpful against; the consideration of which alone is of mighty use to the practical physician, because they indicate to the mind or understanding to what various purposes and intents they may be converted, and in what diseases they may be specifically useful.

How these qualities are to be applied to diseases may be easily exemplified. I know it may be objected to by such as are ignorant of medical qualities and indications, that a great many virtues are ascribed to most plants, for the curing of diseases, which they can never perform, nor any author before ever signified. To which I answer: That I do not affirm nor say, that every herb is a specific for the cure of all diseases which, in the particular preparations and virtues thereof, may be ascribed to it; but he that reads me, ought to read me with a medical mind or soul, and with a good understanding. I will exemplify the matter. Suppose it to be rosemary: as to its first qualities, it is hot and dry in the third degree; and that it is cephalic, neurotic, stomachic, alexipharmic: from these qualities we con-

clude that it must be helpful against all cold and moist diseases of the head, brain, nerves, stomach, and poison; then when we consider what diseases are apt to afflict those parts, from a hot and dry cause, we fix the virtues to be such as may resist those diseases, not to be an absolute and specific cure for the same, but to be very helpful in those cases, and so may be drawn into compositions, with other ingredients for the same purposes: and thus I desire every genuine son of art to understand me. What I have said in this paragraph may be of admirable use, if it be rightly understood and applied.

FIRST QUALITIES OF MEDICINES.

The qualities of medicaments are five-fold: according, first, to their temperaments; secondly, as they are alteratives; thirdly, as they are appropriate; fourthly, as they diminish something; fifthly, as they add or restore something; all which qualities we come now to explicate in order.

The temperaments of medicaments are five-fold: considered, first, as they are perfectly temperate, viz., neither hot nor cold, dry nor moist; secondly, as they are hot; thirdly, as they are cold; fourthly, as they are dry; fifthly, as they are moist: in the four last of which there are said to be four degrees receding from their principal, *ver. gr.* An herb which is hot may be hot in the first, second, third or fourth degree of heat. Again: from the four prime qualities these also proceed, viz.: that a medicament, first, as it is hot, may be hot and dry, or hot and moist; secondly, as it is cold, also cold and dry, or cold and moist: and these likewise in all the four degrees of temperature.

Temperate medicaments are such which work no change at all in respect of heat, coldness, dryness, or moisture. And these may be temperate in some

respect : first, as being neither hot nor cold, and yet may be moist or dry ; secondly, as being neither moist nor dry, and yet may be hot or cold. Their use is, where there are no apparent excesses of the four other qualities, to preserve the body temperate, conserve strength, and restore decayed nature.

Hot medicaments (and so also cold) are considered in respect of our bodies, and not of themselves ; for those simples are called hot which heat our bodies. Their uses are, first, to make the offending humour thin, to be expelled by sweat, or through the pores ; secondly, to help concoction ; thirdly, to warm and comfort the viscera ; fourthly, and by outward application to discuss tumours ; fifthly, or raise blisters, make cauteries, &c., according to the degrees of heat.

Cold medicaments are such as cool our bodies, being over-heated by any adventitious or accidental causes. Their uses are, first, to cool the parts or bowels ; secondly, to condense vapours ; thirdly, to thicken humours ; fourthly, to abate the heat of fevers ; fifthly, to refresh the spirits when almost suffocated ; sixthly, to allay inflammations ; seventhly, repress sweating ; eighthly, ease violent pains.

Drying medicaments are such as dry the parts overflowing with moisture. They are used, first, to stop fluxies ; secondly, to comfort and strengthen nature ; thirdly, to consume a superfluity of humours ; fourthly, to fortify the bowels ; fifthly, to restore in consumptions, where great fluxes of the bowels have taken place.

Moist medicaments are such as are opposed to drying, which moisten, loosen, are lenitive, and make slippery. They are used, first, to moisten an over-dry and constipated habit of body ; secondly, to ease coughing ; thirdly, to help the roughness of the wind-pipe ; fourthly, to loosen the belly ; fifthly, to relax parts contracted or hardened.

Things hot in the first degree, gently warm the body, being overcooled, and outwardly open the pores. Hot in the second degree, as much exceed the first as the first exceed temperature, and these cut tough humours, open obstructions, and the pores also outwardly. Hot in the third degree, more powerfully heating, and are able, if much used, to inflame the body, and cause fevers, provoke sweat exceedingly, and resist the malignity of the plague or pestilence, and more powerfully also cut tough humours. Hot in the fourth degree, burn the body if outwardly applied, raise blisters, corrode the skin.

Things cold in the first degree, qualify the heat of the stomach, and refresh the spirits. Cold in the second degree, are chiefly of use to abate inflammations. Cold in the third degree, are repercussive, and drive back the matter, repress sweat, and keep the spirits from fainting. Cold in the fourth degree, stupify the senses, ease violent pains, and are used in extreme watchings.

Things dry in the first degree, strengthen. In the second degree, bind. In the third degree, stop fluxes, and restore in consumptions. In the fourth degree, stop catarrhs, and all fluxes of blood and humours; are highly styptic, and dry up a superabundancy of moisture.

Things moist in the first degree, are opposed to drying in the same degree: they moisten the body and parts dried. In the second degree, they lenify, loosen the belly, and make slippery. In the third degree, they smooth the roughness of the wind-pipe. In the fourth degree, they cure constipation of the bowels.

Thus medicines alter according to their temperature; whose active qualities are heat and cold; and by them diseases are said to be eradicated. The passive are dryness and moisture, and they are subservient to nature.

SECOND QUALITIES OF MEDICINES.

The second qualities of medicaments are such as are alterative ; which alter the habit and constitution of the body, with respect to the blood, lymph, serum, and other humours of the same ; and these alteratives are considered as they are medicaments internally used, or externally applied.

Of *Internal alteratives* authors have made many titles ; but the whole of the matter is comprehended under the thirteen following appellations, viz.:—

1. Aperitives. 2. Abstersives. 3. Astringents.
4. Digestives. 5. Incisives. 6. Carminatives.
7. Anodynes. 8. Narcotics. 9. Bechics. 10. Solutives.
11. Attenuaters. 12. Coagulatives. 13. Confortatives.

Of *external alteratives* we have the following fourteen, viz.:—Styptics, hemoptoics, antihæmorrhagics. 2. Anodynes. 3. Repurcussives. 4. Discussives. 5. Emollients. 6. Attractives. 7. Suppuratives. 8. Corrosives, or pyrotics. 9. Digestives. 10. Abstersives. 11. Incarnatives. 12. Agglutinatives. 13. Cicatrizers. 14. Cosmetics. Of all which we shall treat in order.

INTERNAL ALTERATIVES.

1. *Aperitives*.—These are such medicaments as open the obstructions of the viscera, as the stomach, lungs, liver, spleen, glands, mesentery, intestines, reins, and womb. They are all hot at least in the second degree, for the most part in the third, and many times in the fourth degree ; of very subtil and thin parts, for without heat there can be no rarefaction, and without rarefaction, no opening of the obstructed bowels.

2. *Abstersives*.—These are cleansers, which, after
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opening obstructions of the affected parts, cleanse them, by taking away the recrements which obstructed them, being the superfluities of blood, lymph, and other juices; and without which work be done, all that aperitives or openers do, is done in vain. They have a sharpness and tenuity of substance, and it is not any great matter whether they be hot or cold, by reason neither quality (if not excessive) hinder their action. They also remove glutinous and clammy humours in the superficies, or adhering to the pores of the skin and ulcers.

3. *Astringents*.—These are binders, and are generally dry in the second and third degrees, whether they be hot or cold. They are styptics, and in some measure constipate the bowels in fluxes, dry up fluxes of humours, help catarrh, and strengthen the tone of the stomach and other bowels, when over lax, or weakened by long defluxions, over much moisture, or the vehemency of any inveterate disease, and are therefore often given in the end of a cure.

4. *Digestives*.—These are such as concoct the food in the stomach, and are all naturally hot; for it is heat which causes concoction, and excites the natural fermentation in the stomach, by which a good chylus is made, in order to sanguification, and nourishment of the body. Yet some things may cause digestion which are not naturally hot, but cold, and may excite the natural heat by way of antiperistasis, whereby the sulphureous particles in the stomach are more fermented and heated, or set a boiling.

5. *Incisives*.—They are such things as pierce into and cut tough matter, which is not easy to be broken or separated into parts; such are juice of lemons, vinegar, and all acid things which by their points enter into and make a division, not a dissolution, whereby tough phlegm, and tartarous or viscus matter, is prepared for abstersives, and so made fit either to be expectorated by the mouth, or expelled

by urine and stool. These, whether hot or cold, are of very thin and subtil parts.

6. *Carminatives*.—These are medicaments which spread, discuss, or expel wind, and are generally hot and dry, and of very thin and subtile parts, proper in pains of the stomach and bowels, the colic, and other indispositions whatever caused by wind, as vapours, hypochondriac pains, hysteric fits, &c.

7. *Anodynes, or Paregorics*.—These are easers of pain; which, though they do not often cure diseases, yet act in order thereto, they regarding the pain chiefly, while both cause and disease are remaining. They are of thin parts, and are moderately hot, seldom exceeding the first degree, and rarefacient; and so digesting, concocting, dissipating, extenuating, and in some measure evacuating whatever humour is sharp, tough or gross, by its alcalious property absorbing the acritude of the matter contained in any cavity or its pores.

8. *Narcotics*.—These are stupifying medicines, and ease pain, not by mitigating it, but by stupifaction; not by taking away the cause, but by obstruction of the animal spirits for the time. Yet stupor is something less than insensibility, or the deprivation of sense. They are also called *hypnotics* and *somnifics*, because they induce sleep. These being taken too liberally, or to excess, cause death, as all opiates if immoderately taken. They are to be administered at such times, when the symptoms are so grievous as to threaten a greater danger than the disease.

9. *Bechics*.—These are such as abate or ease coughing; and they are things which incrassate thin humours, stop defluxions, and so ease the cough. Narcotics of the middle kind, are agreeable to the breast and lungs; which, if they are cold, they incrassate thin humours, and stop coughing, and especially such as are much narcotic, or stupifying; but such things as are hot and of thin parts, and extenu-

ating, which expectorate tough humours, oftentimes ease it.

10. *Solutives*.—These are loosening medicines ; not such as are purging, but by their hot and moist qualities, keep the body soluble. They not only open the pores of the viscera or entrails, but in some measure removing obstructions, they open the inferior ductus of the bowels, as do nitrous salts, soluble salt of tartar, oatmeal, &c. ; and this they may do, although they may have some small astringency, and, by reason of substance, not differ from those which are abstersive, but in some degree ; for these things which cleanse the pores and inward passages, have a great tenuity of parts, and are moderately astringent, which cleanse, and seemingly purge the greater passages, yet strengthen the same. Some things are soluble by lenifying, as fat things ; and some by washing and abstersion, as whey, solutive waters, new beer and ale, &c.

11. *Attenuaters*.—These are such things as make thin, and are of hot and thin parts, and so extenuate gross and tough humours, and are for the most part hot and dry in the second and third degrees, as things sharp, picquant, and aromatical. Generally they are strong provokers of the terms, because they make the blood and lymph more thin and fluid : they also facilitate the delivery of women in labour, bringing forth both birth and afterbirth. Hereto belong incisers of viscid humours, which are more strong ; and dissolvers of what is grumous and coagulated, as sal volatile oleosum, and all alcalious and volatile salts and spirits : also extenuants, or wasters of the fat substance and gross parts of the body : and laxatives, which are solutives, and moderately hot, moist, and thin. The use of attenuating medicines is previously in order to open the obstructions of the bowels, lungs, and womb.

12. *Coagulatives*.—These are such as make thick, being contrary to those things which make thin or

rarefy. They make rheum and humours tough and thick, and so are accounted either cold or temperate. They are given in colds, coughs, and vehement catarrhs and distillations, whereby the phlegm or rheum being coagulated or thickened, it is made more fit for expectoration. They also take away the sharpness of the blood and lymph, and thicken it, whereby they stop the overflowing of the loches and terms in women, and perfectly prevail against a diabetes. They also stop too much sweating, and the disposition of the spirits, which often happen to such as are weak, and in consumptions.

13. *Confortatives*.—These are strengtheners of the universal man, of the spirits as well as the body, and are generally of hot, dry, astringing, and subtile parts, that they may warm those parts which are cold; dry and confirm those which are weakened by too much moisture; bind or stop the too openness of the pores, by which the spirits are dissipated; and of subtile and volatile parts, that they may unite with or join the natural, vital and animal spirits, to revive and exhilarate them. But sometimes, when the body is weakened by heat and dryness, cold things may become confortatives, by overcoming those qualities by which the body is weakened; and so we see the spirits and oils of nitre, salt, sulphur, and vitriol, lime juice, juice of lemons, &c., confortatives in the highest degree, where the body has been weakened by hectic and continual fevers, and other hot and dry indispositions, not easy to be expressed in few words.

EXTERNAL ALTERATIVES.

1. *Styptics, Hæmoptoics, or Antihæmorrhagics*.—These are such things as stop bleeding in what part of the body soever. They are for the most part cold, at least temperate, exceeding drying and repul-

sive ; for things which are cold repel, and many of them coagulate or thicken ; and so if they have a crassitude of parts, as things acerb and austere : and medicines vehemently drying, which are astringent, repel also, because they thicken the blood and lymph. These, if they be of thin parts, much conduce to astriction. Some styptics have a crassitude of body, for which reason they then cannot easily penetrate the more remote parts, precluding the passages ; therefore those which have a thinness of substance are rather to be chosen, unless the cause lies in the superficies, as in all fresh and bleeding wounds. Styptics are indeed the highest astringents and binders ; and if joined with narcotics, transcend in the highest degree.

2. *Anodynes, or Paregoricks*.—These are easers of pain, and are moderately hot, viz. in the first degree not much exceeding temperate, and of thin parts, and rarefacient : so by opening the pores, they evacuate, rarify, extenuate, digest, and concoct ; equally encountering whatever humour is either sharp, cold, gross, or tough, inhering in the pores, or near adjacent grieved parts, which by reason of the obstruction of the pores, could not find a way out ; besides, they are aqueous or moistening, and aerial or of subtile substance, not in the least astringent. But there are some cold anodynes, which are such as give ease in tumours, or pains caused from great heat. Again, anodynes are said to be proper or improper. Proper are such as we have already been speaking of : improper are such as they call narcotics, made of opiates, henbane, hemlock, mandrakes, nightshade, &c.

3. *Repercussives*.—These are repelling medicaments, which drive back the humour. They are generally cold and drying, and of gross parts ; for that which is cold repels, and if it has a crassitude of parts also it acts with more force, as that which is acerb or austere. Those things also repel which are astringent, if they have also a tenuity of parts, for

the thinness of their substance does much conduce to astriction. And therefore other things which are astrictive, by reason of the thickness of their substance, cannot easily penetrate the more remote parts, precluding the passages. And hereto defensatives and intercipients may be reduced, being cold, astringent, and repulsive. These, by their coldness, repel the humour, and by their astringency strengthen the part afflicted.

4. *Discussives*.—These are such as resolve the matter contained in the part. They are moderately hot, with a tenuity of parts, and very little resiccant or drying: for as discussives rarify and make thin, causing the matter to be dissipated, so excessive heat does condensate and dry; whereas moderate heat opens the pores or passages, and deeply penetrating, by the tenuity of its substance, opens the pores, attenuates the matter, and so eases the pain. Their use therefore is, first, to open the pores; secondly, to attenuate the matter, or make it thin and fluid; and thirdly, to evacuate it for the most part by perspiration.

5. *Emollients*.—These are such things as mollify or soften any hard tumour or part. These are generally hot and moist; hot in the first degree, and moist in the first or second degree. Their heat is a little beyond the proportion of nature, and they are of thin and humid parts, that they may pierce into the matter, and mollify or soften it. For which reason it is of use in strumous or scirrhus tumours, Oedemas, and others of like nature, to soften the hardness, and reduce it to its pristine heat: and these are either common or proper. First, the common are such whose general operation is to soften hard swellings, and such parts and places of the body as are hardened by congelation. Secondly, the proper are such as are applied or appropriated to peculiar humours, which being either hot or cold, the emollient must

be opposite to them in those active properties, but retaining its due humidity.

6.—*Attractives*.—These are drawing medicines, which attract or draw the humours from the centre to the circumference. They are hot and of thin parts; for that which is hot attracts, and that more strongly if it has conjoined with it a tenuity of parts. Those which are hot and dry in the second degree moderately attract; if in the third more effectually; but most those which are hot in the fourth, for the attraction is according to the strength or degree of heat: yet some things attract specifically, and not by any manifest quality, as emetics, cathartics, &c. These are contrary to repercussives, for their nature is to drive from the circumference to the centre; but attractives draw from the centre to the circumference. They are of use in wounds made by the bites of mad dogs, serpents, and other poisonous creatures; in burns, venereal and pestilential tumours, &c. where it is absolutely necessary to draw the poison and malignity outwards, in order to save life.

7. *Suppuratives, or Maturatives*.—These turn into matter, contused flesh, and humours, as also the substance of which many tumours or swellings consist, and bring it to perfect ripeness. They are moderately hot, and next to emollients, yet differing in this, that suppuratives have an emplastic faculty, where, by obstructing the pores, they produce heat, most like unto that of the body, without any consumption or addition of the humidity. These are friendly to nature, and conspire together with it to bring the superfluous matter to form, and to such a form that it may be separated and cast out, and the afflicted part thereby eased.

8. *Pyroticks or Corrosives*.—These are threefold. First, cathereticks; secondly, septics; thirdly, causticks or escharoticks. First, cathereticks or eaters. These are meanly strong; they by their corrosive

properties consume excrescencies and eat away proud and dead flesh. Secondly, septics. They are corrosives, vehemently hot and dry, of thin parts and consistence, which by their vehement heat eliquate the part, and are called putrefactives; and their use is to draw blisters; these are vesicatories. Thirdly, caustics or escharotics. These are vehemently hot and burning, being the strongest of all, so that they consume all they come near. They cause crusts upon the place they are applied to, and are chiefly of use to make issues, or open apostemes.

9. *Digestives*.—These are a kind of maturatives, which bring laudable or well-digested pus, or matter, into complex or contused wounds, and illnated eating ulcers; without which the pain can neither be taken away, nor the wound or ulcer healed, or a stop put to the eating, &c.

10. *Abstersives*.—These are cleansers, which separate and remove the glutinous, clammy, or putrid matter, adhering to wounds and ulcers, which hinders their healing. They have a power to exsiccate with tenuity of substance; and they may be either hot or cold; nor is it of any great moment which of them, by reason neither quality can hinder their action, except excessive. Yet some count them chiefly hot and drying, with a certain thickness of parts to compact the humours: and because they cannot be defined by either heat or coldness, since some of both sorts cleanse, they are to be understood to have a terrene substance, which may take away the filth with them; and likewise a certain roughness, or nitrous quality, to carry away the compacted filth.

11. *Sarcotics, or Incarnatives*.—These generate flesh in hollow wounds and ulcers, and fill up their cavities, as far as nature will admit. They are hot in the first degree, a little deterative, and that without biting or astringency; also moderately drying, viz., under the second degree: and such as impinguate, or breed fat, are heating, nourishing, impulsive,

attractive, retentive, and specific ; as hemp-seed, powder of sarcocol, kernel of the Indian nut. They dry and change the blood that comes to any part into flesh. Their degree of dryness must be according to the part : if the ulcer happens in a dry part of the body, the sarcotic must be very dry, and therefore some of them are drying, even in the fourth degree : but if the part of the body is moist in which the ulcer is, the incarnatives are to be less drying : they ought not to exceed the first degree, unless the ulcer be very moist. They breed not good blood, nor correct the intemperature of the place affected ; they only defend the blood from ill symptoms, and the ulcer from corruption in breeding flesh ; for nature in breeding flesh, produces either serous or purulent recrements, and these medicines which cleanse and consume those excrements, by their drying qualities, are said to breed flesh, because by their help nature performs that office.

12. *Agglutinatives*.—These are such as glue the lips of wounds and separated parts together : they are also called *Symphitica*, which is the reason that comfry is called symphitum, because of its glueing quality. They are generally drying in the second degree ; and are in a mean between incarnatives and cicatrizers. They are not abstersive, but astringent, and prohibit the flux of humours to the lips of wounds, ulcers, and fistulas. They are temperate in respect of heat, and of a thick substance. By their dryness they absorb that humidity which intervenes between the lips of wounds, that thereby they may be conjoined : and that is the true cure of an ulcer, which conjoins the sides of an ulcer before brought together :—and ulcers require a greater degree of drying than wounds, not only to consume what flows out, but also what remains liquid in the flesh.

13. *Cicatrizers, or Epulotics*.—These are such things as skin a wound, sore, or ulcer. They dry and bind without biting ; absorbing the humidity of the

flesh, contracting it with a skin, or a thin callus like unto a skin, and therefore are more drying than incarnatives or glutinatives; for these bind, contract, constipate, and indurate; being cold, and of a thick substance. There is also a sharp and biting epulotic, which consumes dead flesh, as catherertics; and a third sort, which dries without astriction. The last part of the cure of a wound or ulcer, is to cover it with skin, and restore the place to its pristine beauty: now these medicines meddle with the flesh no farther than only to convert it into skin.

14. *Cosmetics, or Beautifiers*.—These adorn the body by adding beauty to it, by absterging or cleansing it from defilements, as leprosy, scabs, itch, pimples, redness, wrinkles, freckles, yellowness, tanning, sunburning, and the like. Those which proceed from heat are to be remedied by cooling things:—if the defilement is impacted in the skin, extenuating medicines are to be applied: if freckles or worms affect it, the skin itself is to be absterged by emplaisters of soap, or oil of tartar *per deliquium*, diluted with water: if leprosy, scabs, or pustules, constantly breaking out, the cuticula must be taken off by epispastics, &c.

THIRD QUALITIES OF MEDICINES.

The third qualities of medicines are such as are appropriate—that is to say, which are appropriated to some principal and noble parts of the body—the knowledge of which physicians have learned and obtained, either, first, from the signatures of the medicaments themselves; secondly, or from a long series of practice and experience:—and therefore as medicines are said to be appropriate to the most noble and principal parts of the human frame, so from them they take their denominations or names, and accordingly are said to be—1. Cephalics. 2. Neurotics.

3. Stomachics. 4. Pulmonics, or pectorals. 5. Pleuritics. 6. Cardiacs, or cordials. 7. Hepatics. 8. Splenetics. 9. Mesenterics, or hypochondriacs. 10. Nephritics. 11. Hysterics. 12. Arthritics. Of which in their respective order :—

1. *Cephalics*.—These medicines are said to be appropriated to the head, and have respect chiefly to the brain—the *medulla oblongata*, and the membranes called *pia* and *dura mater*, but have very little to do with the tongue, for that is a very unruly member. The brain is the seat of apprehension, judgment, and memory, and by nature moderately hot, and so is very easily afflicted by either too much heat or cold, but chiefly by the latter, and for the most part by too much moisture, and therefore the medicaments appropriated to the head and brain are generally hot and dry, and of very subtile, thin and volatile parts, for otherwise they could have no effect upon the parts. To these some add ptarmics, and sternutatories: it is true, these will purge the brain and head from pituitous, cold, and moist recrements; but these are not proper cephalics; for what they do is by the virtue of their violent heat, and strong attractive power. Whether there be any cooling cephalics is a doubt—if cooling things affect the head and brain, they do it simply, either by their cold quality, or by cooling other parts over-heated, which by sympathy or consent affect the head.

2. *Neurotics*.—These are nervous medicaments, and are all hot and dry, from the second even to the fourth degree, of a very thin substance and penetrative parts, without which they could not pierce and affect the nerves, to ease their extravagant pains, as in cramps and convulsions; or to warm, comfort, and strengthen them, as in palsies, &c.: they ought to be very subtile and volatile, that they may agree with the animal spirits, and as it were recuperate them. Their use is both internal, given in some proper vehicle; and external, being applied to the

parts affected, and all along down the spine or backbone, from whence all the nerves of the extreme parts, as well as some others spring. They very much agree in their qualities with cephalics, because the root or original of all the nerves through the whole body arise from the brain.

3. *Stomachics, or Stomach Medicaments.*—These are such as open obstructions in the stomach, ease its pains, and strengthen its tone: they may be either hot or cold, and so affect the part according to the indisposition which attends it. First, when it is obstructed, the appetite is diminished or depraved, with a kind of nauseousness concomitant: and this is remedied chiefly by acid aperitives. Secondly, when it is pained, or there is a sickness at stomach, it is commonly from being either over-heated, and then cooling stomachics are to be given; or over-cooled, and then hot stomachics are to be exhibited; or from vehemently acid or sharp humours in it, and then absorbents, or fixt alkalis, will be chiefly of use. Thirdly, when its tone is weakened, or hurt, then the digestion is bad, the concoction is weak, and so a bad chylus is generated; whence the retentive faculty is also many times impaired, and whence proceed sometimes the scurvy, and rheumatic pains, or the gout; and if it be of long continuance, it induces a consumption, because the body will want a suitable nourishment:—and these things are remedied (after due evacuation) by stomachics of a hot and dry quality, of thin parts, and confortative withal; which have power to warm, comfort, and strengthen it; and have likewise an astringent property, which strengthens the retentive faculty.

4. *Pulmonics, or Pectorals.*—These are medicaments appropriated to the lungs, and have regard either to the part afflicted, or to the matter afflicting. First, those which regard the part afflicted, are such as stop bleeding, if any vessel is broken in the lungs,

and by a kind of styptic quality, have power to conglutinate or heal it; or, if there be any ulcer in the lungs, have the power of cleansing it, and healing it withal; which is done by either a balsamic property, or by a specific, of which nature is cinnabar; which, entering into the mass of blood, and being dissolved in it, give such a healing property to it, that, by its continual passage through the lungs, it does at length perfectly heal them. Secondly, those which regards the matter; and these are such as digest and thicken the rheumatic and pituitous matter stuffing them (which causes asthmas, wheezing, hoarseness, loss of voice, coughs, &c.) and cause it to be expectorated; and those are they which are most usually called pectorals. Besides, they many times clear the stomach of what sticks to it, causing it in some measure to be spit up.

5. *Pleuritics*.—These are such things as are appropriated to the pleura; and generally give present ease to pains and swellings in the sides, stitches, the pleurisy, &c.; and they are either anodynes or narcotics. The anodynes are such things as are hot and dry, and abound with an admirable volatile spirit and salt, such as salt of urine, volatile sal armoniac, volatile salt of tartar, volatile salts of beans, pease and other pulses, as also sal volatile oleosum. The narcotics are such things as are made of the wild or corn poppy flowers and heads, and of opium; so that opiates, especially such as are replete with volatile sal armoniac, salt of hartshorn, of tartar, &c., all immediately affect the pleura, and give present ease in the disaffections thereof.

6. *Cardiacs, or Cordials*.—These are medicines appropriated to the heart—the fountain of life, and seat of the vital spirit—the original of innate heat, and of vigour and action:—and therefore cordials ought to abound with subtilty and volatility, to revive the spirits; and with heat, to strengthen the heart and make it perform its action. Those cordials

which revive and refresh the spirits must be spirituous, as wine and spirit of wine: and those which strengthen the heart are either hot, when its natural heat is decayed or wasted; or cold, when it is heated above nature, by either fevers or any violent passion, or by poison: the first of which are antifebritics: the second, confortatives; the third, alexipharmics, or antidotes against poison.

7. *Hepatics*.—These are medicaments appropriated to the liver; and these are considered in a threefold respect: first, as they open its obstructions; secondly, as they resist its diseases; thirdly, as they strengthen it. As to the first, hepatic aperitives are to be chosen, which may open its vessels and keep them free from obstruction, without which it is impossible that the person should be well, but must eventually fall into a consumption:—these cut and extenuate without any vehement heat, and yet cleanse. As to the second, hepatics opposite to the disease afflicting the liver are to be chosen:—so if there is an inflammation, cooling, cleansing, and extenuating things are to be used: if a scirrhus, things softening and dissolving. As to the third—the liver, after all, is to be strengthened; and this is done by hepatics gently astringent; for seeing its use is to help towards the perfection of blood, it needs some adstriction to preserve its heat, and strengthen it. Yet the liver requires not so great astringents as the stomach, because the passages of the stomach are larger, and more open, than those of the liver; so that if they be very binding, they may be hurtful to the liver, and cause obstructions.

8. *Splenetics*.—These are medicines appropriated to the spleen. Splenetics are considered in a threefold respect also: first, to such as open its obstructions, and they are aperitives, which ought to be so powerful as to penetrate into its most inward recesses; for the whole substance of the spleen is a kind of animal honey-comb. Secondly, to resist its

diseases ; and these, in an inflammation, ought to be cooling and discussing : in a scirrhus, to be highly resolute, and not in the least binding ; and, outwardly, emollients may be applied. Thirdly, to strengthen it ; and these are such as are temperate, in respect to heat or dryness ; yet they ought to have so much adstriction, as to confirm its natural and healthful tone.

9. *Mesenterics, or Hypochondriacs.*—These are medicines dedicated to the mesentery : its grand failure is from obstructions, which are either from viscous or clammy humours, or from wind, which induce a profound pining, or universal consumption of the whole man ; and in the end (if not removed) death. Upon this axletree the whole orb of life turns ; and when it breaks, the man sinks, and the body returns to its first principles : and therefore the most powerful deobstructors or aperients are specific mesenterics ; and these in the mineral kingdom, are deduced from chalybeates : in the animal, from volatile salts, as sal volatile oleosum sylvij : and in the vegetable kingdom, such things as have power to dissolve congelation of the juices, as volatile salts of beans, and of tartar ; or to cut the viscid and clammy matter, as cresses, horseradish, mustard, rocket, in cold habits of body ; or juices of citron, lemons, or lime juice, and their syrups, in hot constitutions, joined with other proper aperients, which may have a power to penetrate into the most inward recesses of this bowel. Add to these carminatives, conjoined with Sylvius's spiritus anticolicus, where wind seems to have the predominancy.

10. *Nephritics.*—These are medicines appropriated to the reins and bladder. In the reins, a separation is made of the serum from the blood, without which man could not live ; and the bladder, of a sufficient magnitude, is the receptacle to contain it. Therefore it is necessary, by appropriate medicaments, to keep those parts clear and free from obstruction, and

and to retain their strength, that they may the better perform their offices. The diseases afflicting the reins and bladder are chiefly, first, obstructions by a tartarous or viscid mucilage. Secondly, stones, gravel, or sand. Thirdly, inflammation. Fourthly, voiding blood. Fifthly, ulcers. The first is cured by aperients and diuretics; the second, by lithontriptics; the third, by cooling diuretics, as sal prunellæ dissolved in a diuretic wine; the fourth, by styptics and narcotics, as catechu, and opiates prepared with acids; and the last, by balsamics, as balsams of Chili, Gilead, Peru, Capivij, Venice, Strasburg, and Chio turpentine.

11. *Hysterics*.—These are medicines appropriated to the womb; such as assafoetida, and other stinking things of like nature. Therefore since vapours, hysteric fits, and hysteric convulsions, proceed from the womb, those things which alleviate them, suppress the fumes and reduce the womb to its place, ease its pains and strengthen it. Convulsive motions are properly called hysterics; so musk, ambergrise, aromatics, applied to the nose, induce vapours, fits, convulsions, &c.; whereas, applied to the place of conception, suppress them all. But assafoetida and other stinking things, applied below, bring those diseases; whereas, held to the nose, or taken inwardly by the mouth, they frustrate and cure them. Medicines which provoke the terms or loches, &c., or which suppress or stop them, are accounted hysterics; but of them we shall treat in the fourth qualities.

12. *Arthritics*.—These are medicines appropriated to the joints: and seeing that they consist chiefly of tendinous and nervous parts, therefore they are chiefly composed of neurotic medicaments, which have a heating and drying quality, gently astringent or binding, and withal having a peculiar strengthening property:—but because the joints are the extreme parts of the body, and more remote from the vital

centre, they require the stronger medicaments. Pains are eased by anodyne arthritics, mixed with narcotics; as a mixture of camphor, and spirit of wine, with opiates. Inflammations are abated by arthritic baths: and the arthritic tumour is removed either by epispastics or burning, or by the application of arthritic repercussives, mixed with camphor or opium, or both.

FOURTH QUALITIES OF MEDICINES.

The fourth qualities of medicaments are such as are abstractive: viz., such as by their power or operations take away something from the body, or from some of its bowels or parts: and these receive their names from the variety of their operations, which they each perform in the respective parts of the body to which they are adapted, which are the nine following, viz.:—1. Emetics. 2. Cathartics. 3. Salivatics. 4. Ptarmics. 5. Emmenagogics. 6. Diuretics. 7. Lithontriptics. 8. Sudorifics. 9. Venefics.

1. *Emetics, or Vomitories*.—These, by giving a reluctance to the nervous fibres of the stomach, cause their relaxation and stimulation; whereby afterwards, as the reluctancy grows more and more, and the nauseousness increases, those nervous fibres before relaxed, suffer a kind of convulsion, or contraction, and so eject the offending matter upwards, or by the mouth; whereby that viscus, by such a discharge, becomes restored to its pristine health. Nor is the stomach otherwise to be cleansed; for ten cathartics, or purges, however strong, will not so well cleanse the ventricle, as one proper and well-designed emetic. The stomach, therefore, is to be cleansed upwards, by vomiting; the entrails or intestines downwards, by purging, which is according to the law of nature.

2. *Cathartics, or Purging Medicines.*—These peculiarly cleanse the entrails, but withal draw the peccant matter from all parts of the body, as has been seen in some who had for many months lost the use of their extreme parts, or limbs, by violent and inveterate rheumatisms, and colics; who, by only purging with proper cathartics, have been perfectly restored: for which purpose, the pulvis cornachini has been well known. They remove obstructions, not only by opening the pores of the skin, but the interior ductus of the bowels, as in those things nitrous and bitter, although they have some small astriction. They are also abstersive in degree; for those things which open the pores and cleanse the passages, must have a power of attraction, and a great tenuity of parts; moderately hot, nitrous, and bitter; and so have a power of absterging and purging the greater passages: but some purge by lubricating, as fat things: some by washing and abstersion, as whey impregnated with sena and beets: and some by resolving, penetrating, and pricking, as several salts.

3. *Salivatics.*—These are salivating or spitting medicines, which resolving all the lymph of the body into a pituitous or serous substance, it is conducted from all parts of the body to the head; and passing through the salivatic glands, is spit forth.

4. *Ptarmics, or Errhines.*—These are for the most part hot and dry in the third degree, and are endowed with a very piercing acrimony, by which they extremely irritate, or shrivel up as it were the membranes of the brain (as emetics do the tunics of the stomach); by which means the head and brain are cleansed or freed from their recrements; and the viscid or pituitous humour, or matter, is expelled through the nostrils in a very extraordinary manner. If these nasales, as some call them, cause sneezing, they are then called sternutatories. But proper Errhines, which only attract the recrements

from the brain, are of mighty use in curing apoplexies, lethargies, megrims, vertigoes, epilepsies, and other cephalic diseases of like nature, proceeding from cold and moisture.

5. *Emmenagogics*.—These are such as provoke or draw forth the terms. They are hot in the third degree, and of thin parts; concoct and digest crude humours, extenuate and incide the gross and tough, and remove obstructions by opening and cleansing the passages: and such are all proper diuretics, for that they promote the expurgation of the menses; and if they are bitter, as aloes, and fœtid, as assa-fetida, stinking arach, &c., they are so much the more effectual; stinking things depressing the womb, and bitter things purging it. There are also accidental emmenagogics, which refrigerate and humect the body dried by too much heat: and these things, which by their potency expel the secundine and dead child, as also a mola, or false conception, which are stinking, bitter, with acrimony, and thinness of parts, and are to be given often, and in pretty large quantities.

6. *Diuretics*.—These are medicaments provoking urine. They may be either hot or cold, but moist, liquid, thin consistence, and easy penetration, that they may increase the quantity of urine, as it were by accident. Secondly, but in things cleansing, attenuating, and aperient, they open the passages; and these may be cold, and of thin parts, as sal prunellæ, which sometimes expels what sticks in the passages, or operate after a middle way, allaying the extreme heat, and causing the serum and humours to be more easily attracted by the reins, and descend to the bladder. Thirdly, by things which cleanse the passages and open the same, having a quality of extenuating gross humours, attenuating or thinning the blood, and separating what is extenuated from the grumous parts, by which the protrusion of the serum into the reins will be made more easy, as also its

passage through the urinary parts; which kind of diuretics are hot and dry in the third degree, sharp, of very thin parts, coactive and separating. Diureticks then are of two sorts: first, such as conduce to the separation of the serum from the blood; and they are very hot, sharp, biting and cutting, whence they penetrate to the reins and cut the gross humours there. Secondly, such as open the urinal passages; and these are generally cold things which provoke urine, but bite not, yet have a nitrous quality, by which they open and cleanse, as nitre, sal prunellæ, winter cherries.

7. *Lithontripticks*.—These are such as break and expel the stone, gravel, sand, or tartarous mucilage; and they have a power of dissolving, cleansing, and expelling the same: being diuretic, hot and dry, and of thin parts, sharp and cutting, and somewhat bitter. Also some do it by incision and detersion, without heat, as spirits and oils of nitre, salt, sulphur and vitriol, some by asperity, or by some occult property.

8. *Sudorifics, or Hydrotics*.—These are medicaments provoking sweat. They are generally hot and of thin parts, yet some are said to be astringent and cold, working occultly: but the hot, being of thin parts, are subtile and volatile, thinning the blood and humours, and giving them a piercing volatility; so that being forced by the native heat, excited into action, they penetrate through all the coats of the vessels and glands, through flesh, fat and skin, to the superficies or most external parts of the whole body, from the crown of the head to the soles of the feet, expelling all noxious fumes, malign and venene humours, and pestilential miasmata, from the centre, viz., from the heart and vital parts, and so defending them from their deleterious assaults.

9. *Venefic, or Poisoning*.—These are things which take away life, being wholly inimical to human nature, and they are in the extremities of heat or cold. Now they poison not from being in the extremes of

intemperature, but from another peculiar property, by which they corrupt the vital juices, and by a malign and pestiferous gas or steam, smite both the animal and vital spirits; but which property is excited or stirred up into action by those extreme degrees of intemperature. Of the hot kind, are bear's-foot, hellebor, leopard's-bane, monk's-hood, wolf's-bane, &c. Of the cold kind, are hemlock, hen-bane, nightshade, &c. There are poisons also which act by a narcotic property, as poppies and opium. Add to these poisons which do it by a congelation of the blood, whence proceed a stagnation, and almost immediate death; as the biting of a viper, rattle-snake, &c. There are also burning mineral poisons, as arsenic, &c.; and poisons which are only so by accident, as corrosive sublimate, spirits and oils of antimony, nitre, salt and sulphur; which, diluted and prudently given, are salubrious and healthful.

FIFTH QUALITIES OF MEDICINES.

The fifth qualities of medicaments are such as are adductive, viz., such as by a peculiar property add something to the body, or to some of its juices or parts. And these are such as restore or daily add to the principal juices and parts of the body, even to the whole body, without which human life, or its generative powers, could not be conserved; and they are—1. Chylifics. 2. Analeptics. 3. Galactogenetics. 4. Alexipharmics.

1. *Chylifics, or Breeders of the Nutritive Juice.*—These are such things as conserve the natural heat of the stomach, so that it may be able to concoct and digest the food received in, without which a good chylus could not be bred. They are generally hot in the second, third and fourth degrees, so that they may not only preserve but restore the tone of the stomach if hurt; and these are proper stomachics,

hot, dry, and of thin parts, sharp and attenuating. But when the stomach is overheated, and so the concoction is hurt, as also the appetite in a great measure destroyed. Then cold chylics are to be chosen, which may allay the preternatural heat, and reduce it to its just temperament; and these are cucumbers, lettice, parsley, and generally acids, as all ripe fruits, lime juice, lemon juice, spirits of nitre, salt, sulphur and vitriol; all which not only allay the preternatural heat, but also excite the appetite and help the digestion.

2. *Analeptics, or Restorers*.—These are such things as breed a restorative chylus, which is of absolute necessity in such as are in consumptions. The stomach may breed chyle, and that plentifully, yet it may not be good or restorative; such a nutritious juice is to be educed from those things, which have naturally in them a restoring virtue; which, as they ought to be stomachics, or mixed with stomachics, so they ought to warm the stomach if cold. They are hot in the first and second degrees, and for the most part of a fat or a glutinous substance, yet spirituous withal; of this kind are meats made of wheat flour, as thick milk, hasty pudding, also parsneps, turnips, potatoes, &c., and a liquor called punch, thus made: take choice brandy, fair water, of each a quart, lime juice a pint, or three quarters of a pint, double refined sugar a pound; mix and dissolve: of which the consumptive may drink half a pint at a time in the morning just before dinner, at four in the afternoon, and at bed-time. To these things you may add milk-meats, cheese-cakes, custards, oysters, &c.

3. *Galactogenetics*.—These are things which breed milk in nurses. This is done partly by meats, and partly by medicine. For food it is such as is euechymic and polytrophick, of good juice and of much nourishment, a little hotter and drier than the blood, if it is chilly and pituitous; but more moist and less hot if affected with choler. Medicaments breeding

milk are hot and of thin parts, and of affinity to those things which gently provoke urine. But such things as are strong and provoke the courses, hinder its generation by too much eliquation of the humours. Things also too cold, thickening, digesting, or drying, do the same.

5. *Alexipharmics, or Antidotes.*—These are medicaments adding vigour to the vital and animal spirits, to resist and overcome poison, and are antipathetical to it. They are hot and dry in the second, third and fourth degrees, subtile and volatile, confortative to the stomach and heart, and homogeneous with the spirits, enlivening the human body. They, first, strengthen nature, that it may be more able to encounter the poison. Secondly, they oppose the poison, just as its opposite quality. Thirdly, by their potency, volatility and expulsive force, they violently expel it. Vomits, cathartics and sudorifics, immediately used, and in this order, are good expedients. If in the stomach, vomiting: in the entrails, purging: but if in the spirits (as in the plague) sweating.

OBSERVATIONS AND TRAVELS

OF

CHARLES WHITLAW,

TOGETHER WITH HIS

DEFENCE OF THE APHORISMS AND MEDICAL
PRINCIPLES OF LINNÆUS.

HAVING given the medical principles of Salmon, founded on the doctrine of the *humoral pathology*, which was universally believed, and taught in all the medical schools for a period of two thousand years, and to which the almost universal success attending the practice of the great masters of the healing art is to be attributed, during that extensive period of time, we shall now take a view of the principles and opinions of that great oracle of wisdom and goodness, the immortal Linnæus, published in his “*Materia Medica*,” in the year 1743; and it may be of importance to lay before the public all the information I possess as regards the extraordinary exertions made by him to render his work complete. A *Materia Medica* of the vegetable kingdom, with every simple, ascertained by so able a botanist as Linnæus, I have no hesitation in pronouncing to be the greatest acquisition that medical science ever received, notwithstanding the contempt with which Dr. Cullen of Edinburgh has spoken of it in his

history of the *Materia Medica*, and in his medical lectures, delivered in the year 1761.

It will be necessary in this place to say a few words respecting myself, and the circumstances that first induced me to turn my attention to my present pursuit. In the county of East Lothian, Scotland, where I was born, my father had the management of a farm belonging to Colonel Carfrae, during that gentleman's absence on service in the American war. The new improvements in agriculture were introduced into that extensive farm at an early period, both as regards the rearing of stock and grain. My father being anxious to have my mind stored with useful practical knowledge, took every opportunity to point out the great importance of agriculture, when properly understood, in order to increase the quantity, and improve the quality of the grain, and how necessary it was to study the nature of the soil suitable to the various crops, the manure best adapted to the diversified soils, and the most advantageous mode of preparing it, by taking off, or neutralizing, that peculiar rankness which recent manure, obtained from decomposed vegetable and animal substances, is known to possess. Many of the farmers at that time were in the habit of manuring their lands with recent manure, not properly prepared, the cauterizing effects of which diseased the grain, and produced innumerable insects; and they, in their turn, deposited their eggs in the straw and grain, which, no doubt, produced disease in both men and animals.

My attention was also directed to the improved principles of horticulture and landscape gardening, both in theory and practice. The Rev. James Innes, clergyman of the parish of Yester, was the first who gave me correct views of the above studies as being particularly subservient to the purposes of life; he was well acquainted with medicine, having studied it at the time he was attending the

lectures on divinity, and prescribed for the poor of his parish gratuitously; he was a *humoral pathologist*, and believed that a well-regulated diet was absolutely necessary to the preservation of health, and treatment of disease. His success in curing disease, not only amongst his own parishioners, but from the neighbouring parishes, was not to be surpassed by the first practitioners of the healing art. His kind and gentle treatment of the sick made a strong impression on my youthful mind, and being a great favourite, he took every opportunity to impress on me that most important text from scripture, James i, 27,—
“*Pure and undefiled religion before God the Father is this, to visit the fatherless and widows in their affliction, and keep himself unspotted from the world.*”
He also told me how simple and easy the healing art was, when properly understood. As I was exceedingly fond of Botany, he charged me to make use of every means in my power to discover the purposes for which the various herbs were intended, as he was fully satisfied, after forty years’ experience, that vegetables, where they could be obtained, were far superior to minerals, for medicines.

So anxious was my father and our worthy pastor that I should understand all the above branches, in practice, as well as theory, and although I was probably better acquainted with them than any one of my age in Scotland; nevertheless, they induced me to spend *two years* at the first seats of learning in these sciences, particularly at the Botanic Garden at Edinburgh.

I afterwards made up my mind to go to America, and sailed from Greenock for New York in May 1796. On arriving there, I turned my attention to landscape gardening; and so great was my success in that department, that I was engaged to lay out the gardens in various places in the vicinity of New York,

and particularly that beautiful spot, opposite Long Island, which for picturesque views is not excelled by any part of the United States. It took me *three years* to execute. So highly were they admired that gentlemen came from every part of the country to see them; and by that means I was enabled to give a considerable impulse to gardening, horticulture, and agriculture. The lessons I had received in my youth were then of the utmost service in enabling me to watch over the various crops, which I did with so much credit to myself, that gentlemen were astonished to hear I was only *twenty years* of age when I began the undertaking. During the *eight years* I was engaged in this diversified employment, I acquired great insight into the causes of the diseases of crops, whether from soil, seasons, or insects. Among my numerous visitors I became acquainted with botanists, and horticulturists, employed by France, Germany, Prussia, and Russia; also with many other gentlemen of science and observation, from whom I received the most valuable information, not only in the above branches, but also of the *medicinal properties of plants*, all of which I carefully treasured up, and reduced into practice whenever an opportunity occurred; but my desire to travel as a botanist was so great, that nothing could quench my ardour for that pursuit, although from my increase of business as a landscape gardener, I should, in all probability, soon have realized an ample fortune.

In the year 1803, my reputation as a botanist obtained for me a commission from the French minister to execute an order, which he had received from Josephine Bonaparte, for sending a collection of American plants to France. I also received appointments of a similar kind on behalf of the Emperor of Russia, the King of Prussia, and several British nurserymen. So powerful a temptation to engage in my favourite science induced me at once

to relinquish my lucrative employment for the investigation of *medical botany*.

For the period of sixteen years I *travelled* from the year 1803 to 1819. In the early part of my researches my attention was principally directed to botany and the study of vegetables, as applicable to the purposes of life, particularly as food and medicine. My travels were over a great part of the United States of America, Canada, the Leeward West-India colonies, and Mexico, in order to improve myself in the various branches of natural history. In the winter I attended lectures on chemistry, medicine, agriculture, and horticulture, which made me acquainted with the ideas of the various professors on those subjects. My attention was, however, particularly directed to *medicine*: and in visiting the hospitals at New York, Philadelphia, Baltimore, Charlestown, and other cities in the United States, I soon became acquainted with the practice of the medical men in the first rank in the profession, and found them generally followers of Cullen's or Brown's theory, and practice, of physic. The more I studied Cullen and Brown's views, as well as their followers, and more particularly observed the generally *unfortunate results of such practice*, I was induced to compare it with the native Indian practice, especially the Creek and Cherokee tribes, in curing the bite of *venomous reptiles* and hydrophobia, as well as their extraordinary success in the treatment of *pleurisy*, and every other description of *acute inflammation*, without *bleeding*. The patients were convalescent frequently in a few hours, and seldom exceeded two days, so that I scarcely met with a case of chronic inflammation (except at a very advanced period of life), the disease being subdued before it had assumed that character. Scrofula, liver complaints, consumption, and cutaneous diseases were unknown among them. When I informed the medical men of the *superiority* of the *Indian prac-*

tice, they ascribed it to their simple mode of living ; but I found them equally successful with the *white* population. The cures they made of scrofula, and leprosy, among the white population, particularly attracted my attention, so that I began to suspect the theory and practice of Cullen and of Brown to be highly injurious to the diseased portion of the community, and would, sooner or later, eat like a gangrene into the vitals of men, and paralyze the energies of the state, if not prevented. I stated my views on that subject to Dr. Tillary of New York, who was President of the Medical Society in that city ; he investigated my views on that subject, and acknowledged the *superiority* of the *Indian treatment* in the cure of many diseases, and lamented that he, as well as his medical brethren, could not discover the remedies the Indians made use of.

I told him that Dr. Muhlenberg informed me that the remedies were generally made known to the world by Linnæus, and his pupils, and published in his “ *Materia Medica*” and “ *Philosophia Botanica*,” and “ *Amœnitates Academicæ*,” which contain his observations and aphorisms. I had formed so high an opinion of the abilities of Linnæus, not only as one of the greatest naturalists, but as one of the best philosophers that ever lived, that I told him I considered the only valuable part of the writings of Dr. Cullen to have been pilfered from the writings of Linnæus, and disposed of in an English dress.

He, however, confessed, although he had been practising the Cullenian theory for *fifty years*, he now began to *suspect* there was something fallacious in his views, and observed, if I could prove the doctrines of Linnæus to be correct, I should be one of the greatest benefactors the afflicted world ever saw. He advised me to put to the test of experiment the various subjects on which they differed, as being the only way of convincing myself, and enabling me to inform others ; and, as far as was prac-

ticable, to try *the plants* that Cullen made use of in attempting to prove the opinions of Linnæus erroneous, which I readily consented to do. I rented about six acres of land in the vicinity of New York, and collected all the *medicinal plants* from the various parts of the country, and planted them, not only for the purpose of experiment, but for the supply of the European market. I was then credulous enough to believe that the doctors would lay aside that destructive drug, *mercury*, and the long farrago of *mineral* poisons, and make use of my more innocent and less injurious medicinal plants: But I soon discovered the unchangeable devotion of the faculty to mercury. At that time I began a series of experiments to try the effects of the various properties of plants on dead and living animal bodies, which I performed in the following manner:—

I got a number of glasses, and put the expressed juice of the vegetables into each of them, according to the number of the organs of the body I intended to operate upon. I then put a portion of the skin, nerves, muscles, glands, fat, lean, bones, blood-vessels, blood, butter, milk, chyme, and chyle into the different glasses with the expressed juice of the vegetable, and raised the temperature of the room to blood-heat, and carefully observed the action of the *juices* on the different organs of the body when the juice passed into the vinous, acetous, and putrefactive fermentations. They produced the most active effects on both dead and living animal organs, when mixed with *air*; I was astonished at the various changes that took place, the rapid decomposition of some organs and preservation of others with the same vegetable juice; whatever action was exerted on dead animal matter, either as to its decomposition or preservation, the same I have observed to take place slowly on living bodies. I soon saw the great importance of preserving vegetable substances from the action of air, particularly those that are required for

food and medicine, as the action of air will render most of the useful vegetables highly destructive to life.

The observations I have been enabled to make on the *gastric juice* are quite at variance with the doctrines taught in the medical schools of the present day, as its changes are as various as the qualities of the food made use of are different.

The importance of the subject will, I hope, plead for the insertion of the fact. I had in my employ a very healthy man, a carpenter by trade; he could at any time, during the process of digestion, at will regorge a part, or the whole contents of the stomach. I procured for him the various *changes* of bread and butcher's meat, and taking four hours for the average period, when the digestive process is nearly ended, I found that the last contents of the food that could be regorged had, to him, a sweet and saltish taste; an acid could hardly be distinguished by test-paper. Potatoes and cabbage produced *the most active fermentation* in his stomach, creating a great quantity of wind, or gass, which, fortunately for him, he could expel at pleasure, but when he retained much gas in the stomach it gave him a head-ach. In two hours he regorged a part, which had an offensive acrid smell, and changed the test paper to a *fixed red*. When he regorged the whole contents of the stomach at four hours, it bleached the test-paper perfectly white; when applied to a white painted board, it turned it to a light brown colour, and scaled off as if it had been scorched with fire. Cabbage, when used separately, did not produce *so strong an acid* in the stomach, although when taken from the same ground they produced different effects at different seasons of the year, which will be taken notice of in its proper place. Green peas, and the whole leguminous tribe of plants, when used with the addition of butter, seemed to agree better with his constitution than

any other vegetables, producing better health and vigour than butcher's-meat ; and although they had a flatulent tendency, it was greatly relieved by the use of mint, and produced sweet gastric juice, and the best of chyme and chyle. Lettuce, dandelion, endive, and all the lactescent plants, produced the most acrid juice, when regorged into his mouth, set his teeth on edge, and produced a burning and corrosive effect on the skin. Grapes, currants, gooseberries, whether used for pies in their green state, or when ripe, produced the most active vinous fermentation, which passed rapidly into the acetous, producing the most powerful acid ; when used together or when used separately, the currants were the most powerful : they would disengage the lime from the bones, when immersed in it for a week, and kept at the temperature of the human body. Hence I concluded, that of all acids, the currant, grape and gooseberry, were the most destructive, running rapidly into the acetous fermentation ; and I learned the various properties of vegetables, without the errors of the schools.

As the *chemical analysis* of plants is so imperfectly understood, and the different effects produced on the body by different plants, we must attempt to discover more certain rules to regulate our choice in the selection of our food and medicine than vegetable chemistry is able to afford. I quitted the jargon of the schools, in order to discover what the simple children of nature could effect, and was astonished to find that the *Indian practice* was *so successful* ; and am certain that Dr. Cullen, however great his local fame, had no practical and medical naturalist attending his class, or such sophistry would never have deceived so large a portion of the medical men in every country. His quotations from Linnæus were of great use to me, as it enabled me to follow the same track in confirming his theory and practice, which he took so much pains to condemn, and to

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supersede by his own. I made many extensive experiments to prove the specific action of vegetables on the human body, as well as on various animals, both as regards food and medicine, particularly from 1816 to 1819. I had the assistance of many eminent scientific men, particularly Dr. Smith, professor of *materia medica* and chemistry at the College of Columbia in Carolina, who rendered me every assistance in his power. After having made experiments upon upwards of four hundred vegetables, and especially upon those that were rejected by Cullen, as being of little or no importance in medicine, I found his experiments quite at variance with those of Linnæus, as well as my own; and can only account for it by his not paying attention to the locality of plants and the proper elaboration of the sap, which appears to have been the stumbling-block to medical science in all ages. Indeed, so little attention is paid to the collection of medical herbs, that it is solely intrusted to the fidelity of the Moors of Africa, and the American Indians, who collect them at all seasons of the year, and frequently dry them on rocks, or in the sun, where the oils and other valuable medical properties become completely volatilized, and when brought to market it is not to be wondered they so frequently fail to relieve the great mass of human suffering. We need not then be surprised when we witness the great number of persons afflicted with chronic disorders, travelling from five to twenty or forty years from one watering-place to another and from one country to another, after all medical skill has completely failed to relieve, much less to cure them. Having seen so many sufferers in my extensive travels in different parts of the globe, in search of health, after it had long been destroyed, in commiserating their situation I was led to review Cullen's lectures, both practically and theoretically, in his rejection of the Linnæan theory and practice of medicine, taking the plants he

made use of for my guide. In 1761 Dr. Cullen read the lectures on the *materia medica* in place of Dr. Alstons, at the College of Edinburgh. The publisher of his lectures observes, “It is obvious to every one’s understanding how difficult it was for the learned author to acquit himself properly in this arduous task. Notwithstanding this discouraging circumstance, our Professor attempted a plan entirely new and original, and executed the same in a manner which gained him universal approbation. The substance of that performance is the work now offered to the public, which had been so much desired by the faculty.” Dr. Cullen, in page 1, observes, “I shall here shew the plan I intend to follow; so that if you once be convinced of its propriety, you will easily detect the *errors* of others.” The learned Doctor was certainly not aware, that in attempting to detect, as he supposed, the errors of others, particularly greater men than himself, he was about to substitute error for truth, and so sap the foundation of human knowledge, by overthrowing reason and experience, and substituting theory and sophistry in its room. He observes, page 1, “The *materia medica* has received infinite disadvantages from the various signaturists, astrologers, and chymists. Experience itself is liable to so many errors of ignorant men, and so many virtues have been taken up upon trust from different authors, that I expect to be pardoned if I shall not give too much credit to the assertions of others.” The above will shew the Doctor’s drift, his main attack in his subsequent observations being on the writings of Linnæus, he informs us, that experience itself is liable to many errors; his opinion must be, that *the want of experience is a sure guide*. Such doctrine is a libel on the understandings of men. Page 2. “First, we adopt this maxim, viz. *a blister will not act on a dead body*, because the operation of medicine does not depend on the laws of matter and motion, but on

“ the vital principle. We must therefore inquire into those principles ; but they run so much in a circle that “ we do not know where to begin.” He spoke the truth when he said he did not *know where to begin*. I am sure that none of his followers will ever know *where to end*. They talk of the human frame as dependent upon a *vital principle*, which they do not define, nor pretend to do it. But it served his purpose, as it enabled him to swell with pride, and to fulminate his dogmas ; for by the above sweeping assertion he at once cuts up the ideas of our forefathers and their doctrine of the humoral pathology, the mechanical operations of nature, the chemical affinities of substances, and the economy of life, and the laws of life and health, by referring all to the vital principle, or, what he calls, *vitality*, and *assimilation*. We have no reason to think that it is yet time to relax in our endeavours to extend our inquiries into any branch of knowledge because we know enough.

Yet I suspect the Doctor's followers will find the doctrine of vitality, like the fruit of the tree in the Garden of Paradise, forbidden to their taste as well as to their ideas, for fear they should know too much. With the intimate causes, also, of the laws that regulate the phenomena of the universe, as well as the fountain of life, and the materials of which they are composed, we shall probably never be acquainted ; the doors of such science, for reasons that can only be known to the Great Author of our being, seem closed before our steps. But when we consider the mechanical operations of nature, the *insignia* stamped by nature's unerring hand throughout the universe, descriptive of their qualities as applicable to the purposes of life, a wide field for investigation and admiration is open to our view. The laws of life and health, by persevering study, may be brought to a degree of perfection far outstripping the present conceptions of men. It is not probable that our knowledge of those interesting

sciences will ever be so enlarged, until their extent will render them unmanageable, and overpower the strength of our understanding. One of the greatest improvements consists in removing the materials and scaffolding that served only to rear the edifice, and in leaving the columns which support or ornament the temples of our knowledge free from the rubbish that may impede or intercept our views. Before the appearance of Linnæus, our ancestors were hopeless of penetrating much farther than they had done into the mysteries of nature.

The veil that Linnæus removed, and the wonders he disclosed, were far beyond the objects of their expectation; that such a man may again appear and penetrate still farther into the mysteries of nature, and proclaim her bounties to a benighted world, is to be most earnestly desired. Page 2, the Doctor, when endeavouring to trace out the vital principle, seems to favour “the notion of its being in “the contractable power of the muscles.” Page 4, he says; “Upon the whole, I conclude that all our “functions are governed by certain laws, that we “may observe and distinctly mark, so as to know “their consequences, so that the consideration of the “soul, in a medical view, is of no weight.” His opinion is at variance with the common conceptions and observations of mankind; it being generally remarked, that the human passions and propensities are the causes of many disorders: and to suppose the soul to be of no use in a medical point of view, is to deny its acting in unison with the body. It would be difficult to prove that any voluntary action of the body can take place independent of the mediation or consent of the soul. He goes on to state in page 5, “We have now shewn, that in the fibres of animal “bodies there is a sensibility and irritability on which “the motion of the fluids depend; so this vital power “is intimately connected with the *sensorium commune*, “and this with the soul, which is certainly of use in

“ the medical system, though by no means a rational
“ conductor. The soul influences the body, not as a
“ prime mover, but as a modifier of external senses.”

In the two preceding quotations, the Doctor will not allow, in the first place, the soul to have any weight in a medical point of view, and secondly, he allows it to be of use in his medical system, but by no means a rational conductor. If one could be induced to believe the notions in the above extracts, they would most aptly apply to himself; for had his soul been a *rational conductor*, he would not have contradicted himself in almost every page.—The Doctor, when treating of ancient temperaments, which are four, viz. first, sanguinious; second, melancholic; third, choleric; and fourth, phlegmatic; has introduced a fifth, which he calls *idiosyncrasy*. Had he paid particular attention to the various fats and oils produced from poisons, and also from farinaceous vegetables, and their different effects on the same body, as also many other poisonous substances, he might have dispensed with his new temperament, which he calls *idiosyncrasy*, as fat and oils, produced from poisonous vegetables, will produce disease in almost every constitution, especially in those who are in the decline of life; and the shades of the disorder will be as various as the effects of the poison taken into the system. I have strong digestive organs, and feel no inconvenience from eating fats, oils, and butter produced from wholesome vegetables; but if I chance to eat fat, oil, or butter, produced from poisonous vegetables, the most distressing effects take place; yet I am sure none of the Doctor's followers will ascribe *idiosyncrasy* to me, as there are few better constitutions than mine. Whenever he met with a disorder he did not understand, he ascribed it to a peculiar *idiosyncrasy*; and it has become a *cuckoo song* with his followers: but when any disorder becomes epidemical, they not unfrequently charge it to the Deity's having poisoned the air,—an excuse for ig-

norance of the laws of nature.—The Doctor observes, when treating of vegetable food, page 40,—“Nothing
“ is more common or more ridiculous than to ask
“ whether this or that substance be wholesome; as
“ to the quantity, indeed, the answer might be easy;
“ but as to quality, it entirely depends on peculiarity
“ of constitution.”

Now nothing is of greater importance to the well-being of the human race, than the enquiry, what food is wholesome and what is not. Most diseased persons have a depraved appetite, which is truly the cause of their malady, and are constantly teasing themselves about what is agreeable to their appetites,—but what sustenance is good for them forms no part of their enquiry. It was the opinion of the greatest masters of the healing art, in every age, that the study of the quality of food was a matter of the utmost importance. That oracle of wisdom, Hypocrates, observes, “that he who is ignorant of the properties of vegetables, how can he understand the diseases of men; for by every one of these, the body is affected and changed, either in one manner or in another, and of them is the whole of life composed, in health, in convalescence, and in sickness.”

I have had the most extensive experience in observing the action of food on the human body, as well as on animals, and fearlessly assert that nine-tenths of all diseases are produced by the use of improper food and medicine, and the improper regulation of diet. The vast number of patients that I have examined, with the exception of those affected by accident or animalculi, were fond of eating and drinking the things they ought not to eat and drink, and the things they ought to eat and drink they were averse to. Hence most diseases are truly produced from a depraved appetite.

“Vegetables, in the same manner as animals, are
“ divided into classes, &c. In every botanical method,
“ care has been taken to assume a natural one; but in

“ none has it yet been perfectly obtained; and plants
“ of dissimilar qualities in nature are often associated
“ together, merely by the law of system as they say.
“ The investigation of the virtues of plants is thus
“ spoken of by Linnæus in his *Philosophia Botanica*:” —

“ Plants whose genera agree, also agree in virtue;
those plants which agree in a natural order, nearly
agree in virtue; and those plants which agree in
a natural class, agree also in virtue.”

“ This rule is more exact as you advance to the
“ lowest distributions, for in nature there is no dis-
“ tribution certain but that of species; even those of
“ *genera* are much more artificial, and the higher you
“ rise, always more so; and for the application of
“ this rule, as you see Linnæus has carefully marked,
“ you must alone have recourse to the *natural* divi-
“ sions. He has given these, independent of his
“ *classes*, &c. in his *Philosophia Botanica*, in what he
“ calls his *Fragmenta Methodi Naturalis*. For our
“ purpose, then, you must only study natural history
“ in this way, and you may always allow, I mean
“ mostly, that those substances which are *in the same*
“ *natural order*, are somewhat of corresponding virtue.
“ Thus jalap, mechacoon, &c. are very properly
“ ranged together. In looking over Linnæus' list, I
“ find the majority he puts together are of the same
“ virtues; and perhaps should find still more, if they
“ were all employed in medicine. But often there
“ are exceptions, and Linnæus ranges several, not
“ without doubt, or he marks them with interroga-
“ tions. So much may be said in favour of the
“ general rule: but although as an analogy it will
“ serve to direct, in the beginning of study, yet after-
“ wards on applying it to particular purposes, it is
“ found to be fallacious; so that we always should
“ be on our guard in using it. Cinnamon, cam-
“ phore, and benzoin, are ranged together under
“ the *genus laurus*. All these indeed agree in *aroma*,
“ but their particular virtues are very different.

“ Many examples of the same kind occur, and no
“ order is without exceptions, when even in varieties
“ the virtues are different, and often in the same part
“ of the plant, as in the aromatic rind, the bitter seed,
“ and acid juice of the same orange, &c. Besides, in
“ medicine we often use different parts of the plant
“ of the same species. Thus of senna and cassia, in
“ the one we use the leaves, in the other the bark,—
“ parts which are found of different virtues. If the
“ leaves of cassia were employed, it is probable the
“ general rule would apply. Our preparation also of
“ a plant will alter its virtues, by correcting, destroy-
“ ing, or abstracting its acrid parts. I have now
“ explained the first means of investigation, *viz.*,
“ *systemates.*”

The rules laid down by Linnæus for discovering the virtues of plants, have no parallel in the history of medicine. We may observe that some of the classes are nearly all poisonous; other classes with not a poisonous plant belonging to them. If they were all grown on the same locality, there would be fewer exceptions. Cullen observes, “ there is
“ no distribution certain but that of species, even
“ those of genera are much more artificial.” The two last observations plainly shew he knew nothing of Botany, and but little of Medical Botany; the genera are all natural, and if there is any difference in the medical properties of the species, it is caused by cultivation: one species, like the human kind, may be stronger or weaker, but their specific action will be the same, whether used as food or medicine. All the different species of wheat grown on the same soil would be the same in their specific properties, as would barley, oats, rye, rice, pease and beans, and we might include all the genera applicable to food and medicine; for example, take acorns from an oak tree, and plant them in ten different soils and climates; the quality of the timber would be different, as also their physical strength: some would be

stronger, others weaker : still their astringent principle would be observable however weak. Bring the acorns from the diversified soils, and plant them in their parent soil ; they would be all reduced to the same standard in time. He allows that the plants which are in the same natural order are somewhat of a corresponding virtue ; he goes on to make exceptions, and points out the genus *laurus*, the physical power is in the leaves of one and in the bark of another ; and gives us a puzzler, as he supposes, by pointing out the aromatic rind, the bitter seed, and acid juice of the same orange—a doctrine as old as Noah. There are but few plants that have their powers equally disseminated over every part. The Doctor's pupils might have told him a plate of oranges would suit them, and he might eat the wood. It is evident his objections were raised for no other purpose than to put down the Linnæan system ; as Linnæus has pointed out, throughout his *materia medica*, where the chief virtues of the plants he describes are to be found.

APHORISM II.

“ I shall next,” says Dr. Cullen, “ proceed to the second means of investigating, viz., *qualitate*. But previous to that, I shall take notice of several other aphorisms of Linnæus ; and first of that concerning the soil, or, as he calls it, the *locus* of plants. It is this :—

“ ‘ A dry place renders plants sapid, a succulent place renders them insipid, and a watery place renders them corrosive.’

“ This rule, in some measure, may be admitted like other general rules, but like them has also a great many exceptions. Thus rice and rye, both of them bland nutritious substances, are exceptions to this rule ; rice must grow in some measure in water, while rye, on the contrary, delights in a dry soil. The becabunga is a very mild plant ; the

“ hyoscyamus one of the most acrid; and yet the
 “ former grows in watery, the latter in dry situations.
 “ Even plants of the same genus will in the same soil
 “ be very different; *e. g.* the *persicaria mitis* and
 “ *urens*. Upon the whole, this rule seems to have
 “ been taken from a few observations, and those
 “ chiefly on the order of the *ubellati*. I imagine the
 “ two first *loci* mentioned, the *siccus* and *succulentus*,
 “ will apply best to the same plant growing in dif-
 “ ferent soils. Thus an aromatic in a dry soil is in the
 “ greatest perfection, while transplanted to a rich
 “ moist one, it loses its fragrancy and becomes in-
 “ sipid. This does not so well apply to other species.
 “ Another aphorism of Linnæus is still more general,
 “ viz. :—

“ ‘ Milky plants are commonly poisonous.’ ”

“ For my part, I have met with no exception in
 “ this rule; and even those which have the milky
 “ consistence, though without the colour, generally
 “ agree with it. Linnæus himself gives some excep-
 “ tions, *e. g.* the *semiflosculosæ*, an order of plants
 “ used in aliment. All these give milky juices, but
 “ are, however, no certain exceptions; for several of
 “ the class are of deleterious qualities, and if those
 “ we employ as food were allowed to attain their full
 “ perfection, they would probably be found of the
 “ same kind. It is on this account we blanch them,
 “ or use them only when young. Linnæus, in a
 “ note, gives another exception—the *campanulataæ*,
 “ which, in general, are milder than the former; but
 “ as some of them are of dangerous qualities, the
 “ general rule ought still to make us cautious con-
 “ cerning them, and all other lactescent plants which
 “ are unknown to us.”

The superficial view which Dr. Cullen has taken
 of the localities of plants, has no doubt been the
 principal reason why his followers have paid so little
 attention to that subject. But nothing appears to
 me to be of so much importance as the localities of

plants ; and both the practical farmer and the physician ought to be equally acquainted with such science, as the laws of life and health are embodied in a proper understanding of it, as also the nature of plants in a state of cultivation.

The want of this knowledge has been the chief cause of the overthrow of states and kingdoms, and is now operating powerfully on the constitutions of the inhabitants of England ; and, if not attended to, will involve us in the same vortex of destruction as other nations which have gone before us. I would here direct the attention of my reader to the Jewish law-giver, who appointed every seventh year for the land to rest, as he no doubt knew that it would become impoverished and diseased by constant cropping. And as all vegetables extract some peculiar substance from the earth, necessary for their support, if the same vegetable be suffered to grow too long on the same soil, it will completely exhaust it of the proper substance necessary for its growth, and become diseased, and of course improper either as food or medicine.

Of all the travellers that have visited America, none of them, as far as I am acquainted, have paid attention to this important subject. I will make a few observations, having had many opportunities of witnessing the most extraordinary changes take place among the extensive forests in that country. I have seen scores of miles of the largest and finest timber dying for want of nourishment, having completely exhausted the soil. I will instance the immense forests of pine or fir. The pine absorbs all the component substances from the soil, except sand and iron, neither of which enters into its composition, as the roots of the pine run horizontally along the surface, and the absorbent roots are so constructed that they will not take up iron or sand ; the iron is generally found from two to four feet deep, and the sand above. The earthy matters are so completely ex-

hausted, and the sand left so pure, that it would run in a sand-glass. The timber of the pine-tree is soft and highly combustible; and when they have died a natural death, for want of nourishment, the trees that take their place are called the *quercus ilicifolia*, or scrub oak—is a low shrub; its roots penetrate through the sand, until it reaches the hard tily bottom, which is strongly impregnated with iron: the powerful absorbing roots penetrate deep into this bottom, where there is considerable moisture, which powerfully assists in decomposing the soil, and making it more fit for being absorbed. The plant is powerfully saturated with sand and iron; the leaves and acorns falling and going into a state of decomposition, mingling with the sand, the surface becomes immediately covered with *Bromus*, or broom-grass, and other grasses; such large quantities of silex or sand enters into their composition, and so powerfully are they coated with it, that by taking two hands full of it, and striking them against each other in a dark room, they appear like a blaze of fire. Next, the different species of *Hypericum* will appear; they are powerful absorbers of iron. I have some in my possession, brought from such locality, that is like the rust of iron. The various plants that now cover the surface by their absorption and decayed leaves, soon convert the whole of the surface into a yellow loam, by combining the sand and iron. The largest oaks now take the place of the scrub oak, the soil being rendered more compact, so that it may support their stately trunks. They frequently rise to the height of two hundred feet. Some people will wonder how such tracts of soil could be sown, after the pine disappeared. The crows, squirrels, and other birds and beasts, break off the branches laden with the seed, and carry them over the field in abundance. I have been led to believe the crows have done it on purpose, being guided by instinct, and make choice of the scrub oak as

being best suited for their purpose to cover the naked surface of these immense tracts of sand ; and their shrubby foliage being so well calculated for sheltering the grasses and other herbage, the seeds and insects affording the crows nourishment, and all contributing to change the face of nature from a barren desert to a fruitful soil.

How wonderfully has the Divine Being provided for the wants of every living creature ! How simple and easy is the renovation of the soil carried on ! How imperfect would be the exertions of man to effect so noble a purpose ! Let us take a more comprehensive view of the regeneration of such extensive tracts, as suited to the wants of man. If we want timber, it is there to be obtained in the greatest perfection : if we want fruit, grass and grain, a portion of the soil being cleared will produce abundance : if we want medicine, it is on such renovated soils by the hand of nature that we can find them in the greatest perfection. I will instance two plants found in such renovated soils, in order further to point out their superiority over any of the same species to be found in a cultivated country. The *Achillea millefolium*, or yarrow : this plant was esteemed by the Greeks and Romans, as being well adapted for the cure of the piles, and ulceration of the bowels and kidneys, and stopping habitual discharges of blood from such ulcerations : the same plant in this country will not produce the desired effect. Dr. Cullen says, — “ Notwithstanding the encomiums “ that have been paid to this plant as an astringent, “ it ought to be thrown out of the list of astringents, “ and put into that of antispasmodics.” I gave the *Achillea* a fair trial at New York, procured from the above locality, and found it maintained, and even surpassed any encomiums paid to the plant by the Greeks and Romans. I have performed many cures both in America and in this country, which had baffled the skill of the first medical practitioners in

both countries, affected with the most extensive ulcers and tumours in the colon and rectum. I have not met with one that did not yield to my treatment.

The next plant is *Hypericum*, or St. John's wort. It was highly extolled by the ancients, and so much by the Romans, that they dedicated the herb to St. John. I have found it a valuable medicine in discharges of blood and diarrhœa; it is excellent also for hypochondriac patients. Not to enter into a detail of the superior medicinal virtues of vegetables at present, I will just mention the superiority of wheat grown in such situations. It contains one fifth more gluten, according to the best chemical analysis, than any that can be found in Europe. Many bakers in London have informed me of the great value of American flour, in the fermenting of and improving the quality of bread, by having a small quantity of it in the batch; more particularly when the British flour was of indifferent quality. How important it is to keep up a well-regulated exchange of the natural productions of other countries, when our health is so much benefited by the change. There is perhaps no country that requires more attention to the renovation of the soil than England. The generality of the soil has become diseased by cropping and manuring it with recent manure, so that the grain, fruit and vegetables, especially in the vicinity of London, are particularly ascendent and diseased. The innumerable myriads of insects attacking the fruit, vegetables and grain, contribute greatly to increase the disease. I do verily believe there is no country on earth has better opportunities of renovating the soil than England. From the superabundant quantities of lime, chalk, carbonaceous earth, marl, decayed vegetable and animal matter, when properly mixed with lime to neutralize or carry off its ascendent effects, and destroy the insects and seeds of the weeds and poisonous plants, the various manures may be readily obtained in sufficient quantities for

the consumption of the kingdom. When travelling in the island of Cuba, I was introduced to a Spanish priest, who informed me, while pursuing his studies in Rome, they employed him to transcribe the observations made by the Roman travellers, in regard to the policy of the Jews. From some hints given by some of the most ancient travellers, he found they were in the habit of trenching the ground periodically, to prevent the land becoming diseased, and to give the land that had been cropped for seven years, a chance to recrystallize and rest for seven years, when it would be turned up to the surface to undergo its routine of cropping, so that the inhabitants were constantly living upon substances produced from virgin earth. What a heavenly policy if our land-owners would set the paupers to perform the same operation. What a blessing would it be to the country. It would not only remove a large number of inhabitants from a state of poverty and degradation, by making them useful members of society, but it would double the produce of the country; and, in place of making injurious laws to prevent the importation of the natural produce of other countries, we should be enabled to grant bounties to encourage the exportation of our own; and if the disciples of Malthus be afraid of the increase of population, and render it necessary for the people to emigrate to settle in the immense wilds of the western world, New South Wales, &c., we, in place of sending out a useless race of people as we now do, to become a burden on the inhabitants of those countries, would then send the most useful members of society, and an honour to the country that gave them birth. How would the scene be changed; the bond of union that ought to exist between the rich and the poor, which is now in a great measure dissolved, would then be stronger than it ever was known to be in the history of our country; when our soil, like that of the Jews, would yield from thirty to sixty and a hundred fold.

I will now turn the attention of my readers to the laws of God, *Leviticus* xix. 19,—“Thou shalt not sow thy field with mingled seed.” How important this law, as the roots of the mingled crops injure each other in their growth. I have often observed vegetables disease and destroy each other; yellow flowering plants will destroy blue flowering ones, when their roots come in contact. Independent of contributing to disease the soil, they never fail to produce the same in animals and men that feed on them. If our law-makers would pay more attention to the laws of God, and less to their own, how much better would it be for us. When we look at our fields and behold such a batch of poisonous weeds, it is not to be wondered at the immense mass of disease that is assailing us, and the children that are now brought into the world, in consequence of their parents living on such diseased food and poisonous drugs, are more fit to become members of an hospital than of civil society. The millions that will be born under these disadvantageous circumstances, before the evil can be removed, must be very distressing to every reflective mind.

On the Localities of Plants.

Dr. Cullen, alluding to the *locus* of plants, says—
“Rice and rye, both of them bland nutritious substances, are exceptions to this rule. Rice must grow in water, and rye delights in a dry soil.”

Silex enters largely into the composition of both rice and rye, but a much larger portion enters into the former than the latter; hence the rain washes the silex, or fine sand, into the vallies or swamps. Rice would not grow unless it was annually overflowed, to get a fresh supply of sand. Water is a powerful solvent, and will decompose mineral and earthy bodies, and assist the absorbing powers of the roots of plants in carrying into their composition the various substances necessary for their sup-

port. There is no plant would grow independently of the agency of water : hence rice, requiring a large supply of silex, must necessarily grow for the most part in water. A merciful providence has wisely ordained that it should be so. Were it not for the quantity of sand that enters into the composition of the straw of the rice, innumerable insects would destroy the crops so necessary for the support of above one third of the inhabitants of the globe : indeed, so strongly is the straw coated with silex, that threshing-mills cannot be used, as the sand wears out the rollers in a short time. Rice is a most acrid substance in its green state ; and, unless properly ripened and well dried, in order to evaporate its poisonous effects, will produce cholera morbus more malignant than any plant known.

He next observes, “ The *veronica becabunga* is very “ mild, the *hyosamus* one of the most acrid ; and yet “ the former grows in watery, the latter in dry situations.”

The *veronica* requires a constant supply of water, in consequence of the roots being so short. The *hyosamus* sends its roots to a considerable depth in the ground : its locality is in bottom land, where it has a constant supply of water. Other various species of grain are much deteriorated in quality, by their being more crude and indigestible when grown on moist land or in wet seasons, which has been known to men of observation in every age. Disease has been most frequently ascribed in our day, by the teachers of the healing art, to the operation of moisture on the human body, and not to the bad quality of food. It is certainly true, that all vegetables growing in water, where there is a great quantity of animal and vegetable matter going into a state of decomposition, however fit they may be for medicine, are not fit for the food of man.

“ I now proceed,” says Dr. Cullen, “ to the investigation of the virtues of plants, *ex qualitate*, “ *i. e.* according to the taste, smell, &c.”

“ ‘Insipid and inodorous plants hardly possess any medicinal power.’—*Linnæus*—*Aphorism I*.

“ This rule seems to be without any exception ;
“ and it is on this account, and not on any proper
“ experience, that many plants are expunged from
“ the *materia medica* as having no taste or odour,
“ which should point out in them any active qualities,
“ and most such I believe are employed as aliment.

“ His other general rule—‘ The most sapid and
“ most odoriferous plants possess the greatest powers’—I cannot admit so indiscriminately ; for the
“ odour of plants often resides in a portion inconsiderably small, whose effects must be very inconsiderable. Neither must we take the medical
“ virtues merely from the poignancy of taste, as that
“ often is deceitful. Thus ipecacuanha, a medicine
“ of active powers, has no smell ; as to taste, it is
“ very often latent, and not found till long chewed.
“ On the contrary, the cress kind, though of considerable poignancy of taste, are endued with very
“ little medical power, at least not with a *vis maxima*.
“ However, as the want of odour or taste rejects the
“ supposition of medical virtue, we may, on the
“ whole, conclude, that those which possess them
“ have more or less of such ; the difficulty is to ascertain the degree.

“ With regard to odours, I find this very difficult,
“ as they are of such infinite variety, and of so little
“ resemblance, as makes it very difficult to reduce
“ them to any general heads ; so that thence we
“ might derive particular virtues from the different
“ kinds of them. Linnæus has attempted a distinction of this sort. The simply fragrant, as the
“ violet and wall-flower, &c. ; the *ambrosiaca*, as the
“ *asperula*. By *ambrosiaca* he means somewhat of a
“ musk odour, and gives us another example—the
“ *malva moschata*, which, by the bye, I take to be
“ an evidence of very strong odour being accompanied with little medical virtue, for this plant is of

“ very inert qualities. Another odour he mentions
 “ is the *aromatic*, comprehending under it thyme,
 “ lavender, saffron, cinnamon, sassafras, &c. All
 “ these are of a distinct odour, and any resemblance
 “ they have is found not to be supported by their
 “ virtues in medicine, which are found, by experi-
 “ ence, to be very different. Besides these, there
 “ is a kind somewhat betwixt the fragrant and foetid,
 “ which I would call the *graveolenta*, such as that
 “ of cummin, coriander, &c. The more directly
 “ foetid are as much to be distinguished from each
 “ other as the *aromatic*, *i. e.* the difference of the
 “ rue, &c. is very different from the stupifying odour
 “ of tobacco or opium, &c. &c.

“ Upon the whole, very little of the medicinal
 “ powers are to be determined from the odour. Some
 “ degree of it, indeed, may be determined from a
 “ very strong one, though even that is often falla-
 “ cious.”

The learned Doctor might have observed, that odour is one of the chief guides to the brute creation in the selection of their food and medicine, and also to uncivilized man. He again shews his want of observation thus :—“ *Ipecacuanha*, a medicine of
 “ active powers, has no smell ; as to taste, it is very
 “ often latent, and not found till long chewed.” The smell of the *ipecacuanha*, when growing in its proper locality, is most nauseous, and will produce retching on most persons by smelling it for fifteen minutes. I suspect the Doctor never saw the plant until its smell was completely evaporated by drying : when used as medication in the vapour bath, it makes the patient very sick. He says, “ On the contrary, the
 “ cress kind, although of considerable pungency of
 “ taste, is endued with very little medicinal powers.” I pronounce them to be plants of the most active powers ; they are powerful diuretics ; and, when young, seldom fail to benefit those who make use of them in moderation. When taken in large quantities,

they will produce the most acrid eructation, and will ultimately disease the stomach and kidneys. When the plants are full grown, if taken in too large quantities, they will cause diabetes, as well as the above named disorder, to a most malignant degree. I have had many opportunities of witnessing such effects. He next notices the *malva moschata*, which he takes to be an evidence of a very strong odour, and observes, “This plant is of very inert qualities.” In warm countries I have found the *malva* a most valuable medicine, in acute fevers, hysterics, and stranguary. I consider it a plant of active powers. “Another odour,” he observes, “is the aromatic, including thyme, lavender, saffron, cinnamon, safras: all these are of a distinct odour, and any resemblance they may have, is found not to be supported by their virtues in medicine, which are proved, by experience, to be very different.” I think the Doctor must have been taking his wine when he wrote the above paragraph on aromatic plants, as their valuable medicinal powers, have been highly valued by the first medical men in all ages, when taken from their proper locality. He says, “The difference of the rue is very different from the stupifying odour of tobacco or opium.” I am really at a loss to conceive what he means by comparing the three plants, as they are all poisonous when taken in an over dose. As to their smell, had he been in a Dutch tap-room, he would have found the odour in the greatest perfection from the most poisonous one, and yet the Dutchman’s nerves are but little affected by it. The reader will easily comprehend, in the two next aphorisms, his ignorance or wilful misrepresentation.

“Linnæus’s other general rule—‘Sapid and sweet plants are good, nauseous and strong smelling are poisonous’—will be found often false; nay, in many cases, the reverse. Thus almost all the lily kind, which are certainly *sweet*, are poisonous, as

“ also the jasmine ; and, on the other hand, the nau-
“ seous and fœtid are often without any dangerous
“ powers, while those altogether inodorous often
“ possess them. Linnæus also pretends to say, that
“ ‘ Sapid plants do not act on the nerves, nor strong
“ smelling plants on the muscles.’

“ This depends on a nice physiological distinction ;
“ and if, as I think, the moving fibres are continua-
“ tions of the nerves, or at least intimately affected
“ by them, what acts upon the one will certainly do
“ so on the other.

“ Linnæus’ next aphorism—‘ Very strong plants
“ are analeptic ; fragrant act on the organ of smell-
“ ing ; aromatic are exciting ; lurid are stupifying ;
“ and nauseous are corrosive’—is very difficult to un-
“ derstand ; and, were it necessary to comment upon
“ it, might easily be shewn to have little foundation
“ in nature.

“ Plants that possess a genuine bitter and sweet
“ will be found good : nauseous and strong smelling
“ are poisonous.” The Doctor, in citing the lily and
jasmine as possessing the former of the two qualities,
has erred, for neither has it ; and, instead of the
supposed salubrious scent, it has been proved that
many persons of delicate nerves, on entering a room
where there are lilies, have fainted away. The vir-
tues of the rose are quite opposite, both as respects
odour and taste.

That “ the nauseous and fœtid are often without
“ any dangerous powers, while those altogether in-
“ odorous often possess them,” as the Doctor states,
is also fallacious ; for if the nauseous and fœtid plants
are administered when gathered from their native
locality, they will, in every instance, prove injurious ;
and the Doctor’s own words, in the preceding page,
confirm the position ; for he acknowledges that
“ plants without taste or smell have no medicinal
“ powers,” which my experience has proved to be
correct.

“ Linnæus also pretends to say, ‘ that sapid plants
“ do not act on the nerves, nor strong smelling plants
“ on the muscles.’ ” The Doctor’s remarks on these
words are as follows:—“ This depends on a nice
“ physiological distinction ; and if, as I think, the
“ moving fibres are continuations of the nerves, or at
“ least intimately connected with them, what acts
“ upon the one will certainly do so on the other.”

The Doctor, in endeavouring to refute the above most important aphorism advanced by Linnæus, has proved nothing ; because strong smelling plants, such as *assafœtida*, *valerian*, *pothus-fœtida*, and various others, notwithstanding their powerful tendency to renovate the nerves, act as a poison when taken into the stomach.

This is one of the most important aphorisms of the whole *materia medica* ; for strong smelling plants are necessary to strengthen and cure the nerves, and sapid or bitter substances are best adapted for improving the muscular and vascular system :—a decided proof that Linnæus was correct in his views on that important subject.

Had it not been for the importance which has been attached to the Doctor’s new system, insomuch that it has become the text-book of the schools for the last fifty years, I should not have thought of reviewing a single page of his work.

Another aphorism of Linnæus is, “ That very strong plants are analyptic ; fragrant act on the organs of smelling ; aromatic are exciting ; lurid are stupifying ; and nauseous are corrosive.”

The Doctor observes that the foregoing aphorism “ is very difficult to understand ; and, were it necessary to comment upon it, might easily be shewn “ to have little foundation in nature.” By the above assertion, it would appear he attempted to sap the very foundation of medical knowledge, because twenty years’ experience has proved the truth of

Linnæus' aphorism, and the fallacy of what the Doctor has asserted.

Practical results of the aphorisms upon a large number of patients, will prove, without further comment, that the several plants possess the virtues pointed out so distinctly and scientifically by Linnæus.

In regard to what is said under the head of "Taste," a cursory review of the subject will clearly shew that the Doctor has copied Linnæus and Sir John Flayer's remarks.

"So much with regard to smell. Having then spoken on the subject of System and Quality, so far as regards *odour* (of which having said enough), I go on to

"TASTE.

"Taste labours under the same difficulties as *odour*. The perceptions, from the same impression, vary in smell remarkably,—in *taste* considerably so. There is not only the same difference of what is grateful to one being not so to another, but also a difference with regard to impression,—what is acrid to one being almost insipid to another. It is not with regard to sweet and bitter, &c. that men differ; it is with regard to compound tastes; in expressing which there is no small difficulty. But as this subject leads farther than any other to the knowledge of unexperienced substances, I shall attempt, as a foundation for observations afterwards to be made upon it, to give somewhat an arrangement of *tastes*.

"Insipid.—This is of three kinds: the watery, mucilaginous, and oily; in all of which we judge properly of the consistence, and not of the impression or *taste*. Of the *tastes* that produce sapidity, I shall first take notice of one in common to the whole vegetable kingdom, viz., the herbaceous. In many plants we have this perception

“ joined with many others, so that however the
 “ herbaceous lurks under the whole, and in common
 “ to the whole plant.

“ Sometimes, again, it is simple, as in chickweed.
 “ The herbaceous is frequently mixed with more or
 “ less of the oily, poignant, saline, called a nutritious
 “ taste, as in raw beets and spinage. Another differ-
 “ ence of it belongs to the legumina, called the *pea-*
 “ *taste*, found in the leaves of peas and other legu-
 “ mina.

“ Acid.—This is simple and pure in some fruits
 “ of a watery consistence, as oranges separated from
 “ the rind.

“ Next to this is the austere, or styptic taste, as
 “ that in gall or the barks of trees ; in which last it
 “ is as fundamental as the herbaceous taste in vege-
 “ tables. Acerb is often confounded with acid or
 “ austere, but it is properly a compound of both.
 “ All fruits, in their unripe state, are acerb ; some
 “ of them always remain so, as sloes. Between the
 “ acid and acerb there are intermediate degrees.
 “ Lemons have a degree, *e. g.* of austerity along with
 “ their acid.

“ Sweet :—*e. g.* Sugar.—This is seldom pure, and
 “ commonly united and confounded with acid, as in
 “ the *acido dulces* : and that, again, has somewhat of
 “ acerbity along with it. Sweet is also united with
 “ austere, producing what Floyer calls the *fern taste*.
 “ This is obvious in polypody, ferns, &c.

“ The next simple taste is the bitter. This is
 “ seldom pure, often confounded with acrimony,
 “ aromatic, or austere. To me, an instance of pure
 “ *bitter* occurs in gentian.

“ The pure acrid is difficult to find. An example
 “ occurs in Guinea pepper. When an acrimony is
 “ joined to fragrancy of odour, it is aromatic. This
 “ is more or less pure. Cinnamon is an instance of
 “ the purest aromatic. When an acrid is joined
 “ with a disagreeable odour, it may be called foetid

“ or nauseous. Some, however, take the nauseous
“ as a simple taste, an instance of which is given in
“ opium, which is neither bitter nor acrid.

“ These are all the simple tastes : various are the
“ tastes compounded of these. The austere bitter of
“ rhubarb ; the aromatic bitter, as in assafoetida ;
“ the peculiar bitter of Floyer, which he calls the
“ smoky or sooty bitter, and naturalists the *amora*
“ *frigida*, as lettuce, &c. ; the laurel bitter, which is
“ commonly enclosed in shells, as bitter almonds,
“ kernels of black cherries, &c. ; the balsamic, or
“ terebinthinate bitter, as that of turpentine, resins,
“ &c. are examples of compound bitters, and pro-
“ bably the foundation of all their varieties.

“ Instances of compound *acrids* occur in the bitter
“ acrid, as *curcuma* ; the nauseous acrid, which is
“ commonly purgative, as *seneka*, in chewing of
“ which you have a succession of tastes, insipid,
“ sweet, nauseous, acrid, which commonly, as I
“ said just now, serves to distinguish purgatives.

“ Compound aromatic *tastes* occur in ginger. Cin-
“ namon, I have said, is purely and simply aromatic ;
“ in ginger the acrimony is more evident with less of
“ the aroma. It is thus we distinguish between the
“ *acrid* aromatic, and the *aromatic* acrid.

“ The cress and garlic *acrids* occur in *cresses*, *gar-*
“ *lic*, *onions*, and others of the class.

“ This list of tastes is very far from being com-
“ plete. However, I found it necessary to give it,
“ in order for a foundation for more accurate dis-
“ tinctions, as they are the leading experiments of
“ judging by analogy. On the whole, the virtues of
“ substances accompany pretty constantly and regu-
“ larly their peculiar *tastes*, especially if they are
“ simple. In compound tastes we ought always to
“ hesitate, for the virtues of a medicine are often
“ found to reside principally in a very small portion
“ of sapid substance, which, amidst the confusion of
“ other tastes, will often discover itself imperfectly

“ and obscurely, if it is not hid altogether. As to
 “ the simple *tastes*, the pure austere is astringent,
 “ the sweet nutritious, and the pure bitter of the
 “ same virtues with the rest of the kind But more
 “ of this shall be observed afterwards, when I come
 “ to treat of particular substances, which in my
 “ catalogue I have sometimes arranged according to
 “ their uniformity of *tastes*.

“ COLOUR.

“ Linnæus has taken in colour, as varying the
 “ virtues of medicines. His aphorism is this:—
 “ ‘ Plants of a pale colour are insipid, those of a
 “ green colour are crude, those of a yellow colour
 “ are bitter, those of a red colour are acid, those of a
 “ white colour are sweet, and those of a black colour
 “ are ungrateful to the palate.’ All those of colour
 “ are less useful than the odour, much less so than
 “ the *taste*, and is very far from being general.

“ ‘ Yellow plants bitter.’ I formerly observed
 “ the lactescent plants, and even such as were of
 “ milky consistence, were often poisonous, and had
 “ a degree of acrimony and bitterness with them.
 “ If Linnæus, then, had said, that the yellow juices
 “ of plants were bitter or acrid, his rule would have
 “ been much more general. The yellow plumb is
 “ an exception.

“ ‘ Red plants acid.’ This is not founded. It is
 “ applicable only to fruits, which, in proportion to
 “ their redness, have often their acerbity turned to
 “ an acid: for many flowers are red which have no
 “ acidity. Several plants which are of a green
 “ colour are acid, as sorrel, &c.; but these, Lin-
 “ næus says, are only such as turn red in autumn.
 “ But surely the *brassica*, which is of this kind, has
 “ in it no acidity, &c.

“ ‘ Green plants crude.’ This observation is only
 “ relative, being applicable only to fruits, which in

“ the progress of their growth change their colour
“ with their maturity.

“ ‘ Pale plants insipid.’ This is still a greater
“ mistake ; for pale plants are far from being gene-
“ rally insipid. Linnæus means here, those plants
“ which being naturally green, attain by blanching
“ a white colour.

“ ‘ White plants sweet.’ This rule is relative to
“ fruits. Thus the white currant is sweeter than
“ the red. Whether it applies to apples, plumbs,
“ rasps, &c. is a question. Certain it is, that the
“ red plumb is as sweet as the white, &c. This rule,
“ as well as the rest, is of very little use.

“ ‘ Black plants ungrateful to the palate.’ This
“ is as far from being conclusive ; although when a
“ general rule of this kind leads to an important
“ caution, it ought to be observed. Black currants,
“ in contradiction to it, are equally harmless with
“ the red.

“ This finishes what I had to say on the sensible
“ qualities.”

The Doctor observes, that “ all those of colour are
“ less useful than the odour, much less so than the
“ taste, and is very far from being general.” There
is no principle in nature better established than that
of colour, when the plants are growing in their proper
locality. In a cultivated state, they become, as Lin-
næus calls them, vegetable monsters. Their taste,
smell and colour, become so blanded and diversified,
that they baffle all calculation ; and their powers so
inert as to be, for the most part, unfit for physical
purposes ; and very frequently they are diseased.

I have had many opportunities of observing the
truth of Linnæus' aphorisms on colours ; particularly
whilst travelling in Canada. In the fall, before the
first frost set in, and when vegetation was in the
highest perfection ; autumnal flowers appearing in
the greatest brilliancy, and emitting a rich perfume,
a severe frost set in and checked the vegetation at

once. The sun shone brilliantly next day, and fixed the colours of the various herbaceous plants in their stems, and leaves : shrubs and trees in their young shoots and leaves. Their colours were brilliant beyond comparison.

I had been endeavouring to establish the virtues of plants from taste and smell. In this instance I had one of the best opportunities of succeeding, by proving their virtues from colour. I took memorandums of the various yellow plants, and found them more or less bitter, according to the faintness or deepness of the colour. The *Triostium* or fever-wort is a fine example of the yellow colour. The red plants, from the deepest crimson to a pale pink, I found represented the acid quality to perfection. I will instance the *Rhus radicans* in the swamps. It was the most brilliant red ; its poisonous powers are found in the acid it contains : the cattle frequently feed on it, and never fail to lose their lives, except they are giving milk. Their milk is poison, both to rational and irrational animals, nurses excepted, but it will never fail to poison the child at the breast. The same plant, when growing by the wall of a house or fence, with its roots in contact with lime, neutralizes and destroys its acid qualities and poisonous powers. In autumn its stem and leaves are of a dusky yellow. The plant then is harmless.

“ Green plants,” the Doctor observes, “ are only “ applicable to fruits, which, in the progress of their “ growth, change their colour with their maturity.” Here he has made another mistake ; for Linnæus means green plants in their growth, before coming to maturity, and not fruits ; for most farinaceous plants contain a milky juice, when the grain or fruit is forming. In that state it is very crude and poisonous ; all fruits and grain requiring a sufficient degree of the heat of the sun to evaporate their poisonous juices, to make them fit for the food of mankind. Hence, we find, that most fruits which

grow in a southern latitude, are sweeter and not so liable to produce crudities and disease, as the fruit found in a cold climate.

All plants, such as the laurel, the leaves of the fir and ever-green trees, and plants that retain their green colour when their growth is mature, after having been exposed to the severe action of frost, and afterwards dried by the sun, are true tests of, and is no doubt what Linnæus meant by the aphorism.

“ ‘ Pale plants are insipid.’ ” The Doctor says, “ this is still a greater mistake, for pale plants are far from being generally insipid.” He supposes, “ Linnæus means here those plants which, being naturally green, attain, by blanching, a white colour.”

My own experience proves Linnæus' aphorism to be correct. The true meaning is, that when the grain and fruit have ripened and are dried by the heat of the sun, they resemble the human skin in colour. There is not a poisonous plant among them. The aphorism is an excellent guide to man in the selection of his food. How artfully the Doctor tries to construe Linnæus' opinion, by alluding to blanched plants. The most poisonous plants may have their destructive powers and the colour of their stems and leaves destroyed, by blanching them in land or in a cellar : a fact that has been known for some thousand years to every old woman :—is no guide in the selection of our food in a state of nature, and only serves to destroy the poisonous qualities.

“ ‘ White plants are sweet.’ ” “ This rule,” the Doctor thinks, “ is relative to fruits,” and that, “ the white currant is sweeter than the red ; whether it applies to apples, plumbs, raspberries, &c., is a question : certain it is, that the red plumb is as sweet as the white, &c. This rule, as well as the rest, is of very little use.”

The Doctor, in this case, shews his want of obser-

vation ; for the side of the apple next the sun, when growing, will be red and the opposite side green. Before it is ripe the red side will be acid and the other acrid. When ripe, the same apple will be white on both sides, and perfectly sweet in a state of nature. So far as my observation has enabled me to judge, the white plumb is always sweeter than the red : the same rule applies to the raspberry. The Doctor's last sweeping assertion is truly laying a stumbling-block in the way of mankind ; for all the above aphorisms of Linnæus are certain guides to man, in the selection of his food and medicine.

“ ‘ Black plants are unpleasant to the palate.’ ” The Doctor observes, “ this is as far from being “ conclusive. Black currants, in contradiction to it, “ are equally harmless with the red.” The Doctor, for want of better observation and information, has declared both the red and black currant harmless. Wine, made from the currant, is of all liquors the most likely to produce chalky gout ; and persons labouring under that complaint, will not, with the Doctor, pronounce the wine “ harmless : ” as will also be the case with those troubled with indigestion, after they have eaten currant pies : they will soon discover that currants are not harmless. That fruit powerfully assists in laying the foundation of a scrofulous constitution in children, with all its diversified and aggravating effects.

All plants, whose stems and leaves turn black in winter, are of a destructive poisonous species ; and in proportion to the intensity of their colour, their malignity may be known. Such also as contain a milky juice, will be found to vary from a rattle-snake colour to a black.

The Doctor observes, “ this finishes what I had to “ say on the sensible qualities. Another method of “ examining and detecting the virtues of plants is “ by their chemical qualities.” “ From chemical

“ investigation much has been expected ; but it is
“ now known little can be obtained.”

The Doctor's comment on chemical observations is very short and sweet. I will at present confine myself to the consideration of the medicinal effects of plants. The best method of preparing them, is by cold or hot infusion, decoction, expressing the juice, extracts, expressed and distilled oils, watery and spirituous distillation, tinctures and powders. These are the most natural forms in which medicinal herbs should be prepared ; as the destructive chemical process in the preparation, neutralizes, separates and destroys their compound powers, and when exposed to the air, their properties will be completely changed. For instance, the resin sold in the shops is very different in power, to what it is when extracted from the plant in its natural state.

In collecting the balm of Gilead, the greatest care is taken to prevent the air coming in contact with it while exuding from the tree, lest its properties should be destroyed.

In the numerous experiments I have made, I discovered, that when vegetable life was destroyed, air and moisture would cause rapid decomposition, and the physical properties of plants would be changed ; so much so, that the various plants which are absolutely necessary for man's support, may, by being mixed with air, be converted into poison.

Example 1. In all species of grain the outer coat or skin is impervious to the action of air, which clearly points out the propriety of keeping it from the action of that element after it is ground. This is evidenced in the wheaten bread, when eaten in too large quantities, owing to its being diluted with air and saliva. In the act of chewing, it passes rapidly from the vinous into the acitas fermentation, and is converted into vinegar when received in the stomach. Bread, when moistened with water, and kept at a temperature of ninety-eight, will pass

rapidly into vinegar. A wine glass full of the same vinegar, taken every morning, would soon destroy life.

Example II. When endeavouring to ascertain the specific virtues of plants, I was astonished to see how rapidly the *Sambucus* or elder passed into the putrefactive fermentation; and more particularly so, since we are in the habit of using it in its vinous state, for many disorders with advantage. When passed into the putrefactive fermentation by maceration, with the branches in a tub of water, and so placed as to receive the full action of the sun, it would soon be converted into the most active poison.

Example III. The *Quassia Amara* and other tonics when macerated in water, in place of turning acid or putrid, has a mawkish sweet taste. Of all substances I am acquainted with, the *Quassia* is the most apt to produce Titenus, when taken by a patient in hot climates, and to cause powerful spasms. It has frequently proved fatal in tropical countries.

Example IV. Natural acids, such as lemon and lyme juices, when fermented, produce inflammation in the eyes; particularly that known by the name of Egyptian Ophthalmia, so frequently met with on board of ships in hot climates. Linnæus has not mentioned the two last ferments in any work that I have seen.

After the numerous opportunities I have had of judging how far Linnæus is correct in his aphorisms, I may venture to say, they are the only guide to man in the proper selection of his food and medicine.

Mr. Chaptelle published two volumes on vegetable chemistry, and in conclusion remarks, how imperfectly the vegetable analysis of plants was understood. He distinctly asserts, that the common elder and the cabbage when analysed, gave the same chemical properties; whereas, when taken into the stomach in their original state, their specific action on the human body would be very different. I am of opinion, that no true chemical analysis of a plant

can be discovered unless the trial is made in vacuum : whenever air is admitted during the process, a correct chemical result cannot be given.

The necessity of keeping our food and medicine from the action of air, will be obvious, when we consider, that all vegetables contain more or less oil. Upon being exposed, the oil in all such plants and seeds, as are used for food, becomes rancid, and consequently, considerably deteriorated.

I also discovered, that the healing powers of plants principally depended upon the oil contained in them ; and that the influence of light and air evaporated the volatile oils in the process of drying. The heat of the sun or fire produced the same effect much sooner.

Observing the beneficial advantages derived from plants when used after being recently gathered, and their defects when dried in the above manner, I found the following manner of preserving them the best I had hitherto adopted. I noticed the periods when the sap of the vegetable had attained its proper degree of elaboration, when it was in a fit state for using successfully as a medicine, and at what stage of the elaboration the herbs must be cut to answer the end intended. There are three different periods at which the elaboration of the sap should be attended to. The first, is called the sap juice ; the second, the proper juice ; the third, the concrete juice. The first, will dissolve in cold or boiling water ; the second, in cold or boiling spirits ; the third, by fire-heat. That the reader may see the necessity of attending to the elaboration of the sap, I will annex two examples by way of illustration.

Example 1. The *Phytolaca*, *Decandria* or American pock in its sap juice is used as a substitute for spinach, asparagus or greens with superior advantage, as its poisonous powers are extracted in boiling. It acts as a certain and gentle aperient in persons who are habitually costive. It

has not been known to fail to relieve those who have taken it. When its second elaboration is mature, it is not soluble in boiling water, but in spirits. It operates both as an emetic and a cathartic, in a very powerful manner; and when boiled and eaten as greens, never fails to produce considerable action in the system. In its last degree of elaboration it produces more alcali than any plant I am acquainted with. If taken into the stomach in any quantity in its mature state, it will prove fatal.

Example 2. The *Asclepias* or swallow-root, is used in its young stage or sap juice as a substitute for asparagus. Its poisonous powers are given out in boiling. When in its proper juice, it is very poisonous.

It is no less certain, that all vegetables have their properties strengthened or weakened according to their degree of elaboration. The collector, in order to judge of the degree of strength of the plants before they are cut, must attend to locality, seasons and climate. After this, the plants should be cut or dug up in dry weather, strewed upon the floor of a cotton loft, and a covering of cotton bagging, sheets or mats placed over them, to exclude the light and air. The heat of the latter in summer is sufficient to dry them in any common loft in three or four days. A garret will do equally well in autumn and spring. As soon as it appears the water is evaporated, the herbs should be put into boxes of different dimensions with false bottoms suited to the quantity intended to be prepared. Subject them to the action of a powerful press, until the oil appear. After they have remained in that state a few hours, the bundle and the false bottom should be drove out, the bundle wrapt in air tight paper and put into an air tight box, to prevent the action of that element upon the herbs. All bundles of one size may be put into the same box. They may be kept in that

manner for fifty years, without losing any of the physical powers the herbs originally possessed.

I have plants in my possession that were packed ten years ago: their virtues are now as active as on the day they were packed. Had the same plants been exposed to the action of the sun and air until they were dried, the oil, which they now contain in abundance, would have entirely evaporated, and they would now be unfit for use. Although many of the vegetable oils are highly destructive to life, those which form the essence of vegetables, are of the greatest importance in the cure of diseases, and for preserving health. Experience leads me to conclude, that one half of such oils in the vegetable kingdom are very beneficial and indispensably necessary to preserve and prolong life. The other half, when diluted with air, are destructive to life. Were the injurious effects, of the various oils, that enter into the composition of half the plants which cover the rich pasture lands known, a severe reflexion would be cast both on those who pretend to be the guardians of health and the Board of Agriculture. As the poisonous oil of vegetables that is eaten by animals, enters into and forms part of their system, thus necessarily diseasing the fat and butter, it is not surprising that the inhabitants of this great city have suffered for the last fifteen years, to the extent that they have. Indigestion, cancer, scrofula and mercurial diseases, with their awful train of attendants, are become quite common. Can we be astonished at all this, when the sophistry advanced by Dr. Cullen has been received and practised for half a century?—the period when Britain's physical woes began. Some individuals may say that such a remark is chimerical. I will refer them to the immense number of diseased children that at their birth, are now candidates for prastising upon, compared with any former age. Let them contemplate the weak,

imbecile, nervous race of beings that now exists, and they will readily perceive, that the military power that once bowed to the will and impulse of a mob, can now awe and control the best organized body. These are incontrovertible facts; and to account for such evident degeneration, except upon such principles, appears to me impossible. It may be argued, that disease has increased in proportion to the increase of population: allowing this, for the sake of argument, how is the difference and diminution of moral and physical strength to be accounted for?

With such a view of things before us, it will be asked, What is to be done to restore the country and the people to their and its former energy and fertility? The answer is: let the land-owners, by destroying the whole of the noxious weeds, raise abundance of wholesome provisions, so that there may be enough and to spare for every individual in the kingdom; and the faculty proscribe all poisonous drugs that are unnecessary in the cure of diseases. That two such desirable objects may be attained, is the wish of every philanthropist in the kingdom.

I have for a number of years devoted the energies of my mind, with a view to discover the best mode of preventing and curing disease. How far I may have succeeded does not become me vauntingly to declare; but the testimony of a great number of the most respectable inhabitants of England and America, as to the efficacy of my new system, may be considered as attaching some merit to it. The general opinion which has been expressed is, that no medical discipline can be compared with it.

What, it will be asked, is there not in the present arcana of medical science, sufficient to ascertain the nature of, and to cure all disorders? No, must be the reply; for according to open acknowledgements made by the first practitioners of the present day, they must look on the immense mass of disease that

surrounds them, and lament their want of means to relieve, much less to cure. Here we have an evident proof that the knowledge of the faculty is limited and the system inefficient. Rather than such ignorance should be allowed to exist, it would redound to the credit of the legislature, or those more immediately intrusted with power, not to allow any person to obtain a diploma who cannot cure all disorders in their incipient state, unless occasioned by animalculæ and the stings of venomous animals which immediately prove fatal.

It is well known the American Indians can cure the bite of the most venomous reptiles, except in cases where a blood-vessel has received the poison: the consequence of which will cause death in a few minutes. But in acute inflammation they always succeed, if the remedy be applied in time, even when the inflammation is very considerable. They are not less successful in the most desperate instances of the *Ticunas* or American poison and *Woorara*. They always compound their poisons in the same manner, and follow with the most scrupulous exactness, the proportions taught them by their forefathers. Their arrows when poisoned, and when they penetrate the body, will prove fatal alike to men and animals. Notwithstanding their deadly effects, an antidote has been discovered by the Indians, made from the *Eupatorium Scandans*, of Linnæus. The warriors were in the habit of taking the expressed juice of the plant to the field of battle, in order to administer, from four to six ounces of it, to such as were wounded, as it will instantly destroy the effects of the poison; but if not taken immediately after the wound is inflicted, the consequences prove fatal in a few minutes. The most respectable tribes do not use it.

In the various species of inflammation the Indians always resort to the vapour-bath, constructed upon a principle peculiar to themselves: it is after the

following manner:—A few heated stones, in the first instance, are heaped together, round which, something similar to a soldier's tent is erected. The person or persons to receive the bath are seated round the stones, upon which are thrown herbs, and water sprinkled with the hand. I tried one of them, and must say, that the heat and vapour rising from the stones, were suffocating in the extreme. The discipline was severe; but the beneficial effects I derived from excessive perspiration, when afflicted with an habitual tendency and flow of blood to the head, proved the propriety of inhaling gases by the lungs, in order to relieve and effectually cure disorders in general. I had often observed the various changes produced on my health and spirits, by the various odours I was obliged to inhale on my journeys, and could not do otherwise than contrast the practice of giving the various medicines by, and the great danger of administering poisons on an acrid or acid state of, the stomach; more particularly when the bowels and skin were inactive. As such a system, combined with the general use of mercury, must necessarily produce the most injurious consequences, in 1810 I first tried the vapour-bath or simple steam of water, and was much gratified to find that my attempt, to give relief by promoting perspiration, was crowned with success. Cases of fever yielded to my system: but finding that too frequent a repetition of the simple steam of water brought on relaxation of the muscles, and frequently inflammation, I had recourse to medication by the use of herbs, in the prepared state I have before mentioned.

In the winter of 1819 (the first I passed in London), I was seriously affected with a disorder of the windpipe, chest and lungs, accompanied with a severe cough. I tried the most active remedies without effect: I had recourse to leeches, blistering and bleeding. I frequently coughed for two hours at a time, and

was unable to speak to any one. I frequently brought up blood. Relief appeared as far from me as ever, and I sat myself down in a hopeless state, quite baffled and unconscious of the cause of the complaint, until it struck me, that the food I ate and the water I drank, was keeping up a constant visceral inflammation. I examined the Thames water, and found that terrific cesspool, abominable beyond description. I substituted distilled water, and ate the best bread, without deriving benefit: but after I had, for some time, abstained from butter and the fat of meat, I found the long-desired relief. My attention now was turned to the pastures round London, which upon examination I found replete with poisonous plants.—The butter-cup, in particular, reared its head above the rest, giving strong and undoubted proof that the disorders which generally prevail in this metropolis, have their origin in the portion of the poisonous quality that flower contains. Having by such investigations ascertained the causes, I next directed the whole strength of my mind to remove the complaint. The vapour-bath presenting a safe and beneficial remedy, I had one well medicated, and had the pleasure at the end of six weeks, to find my stomach tranquilized, and the ulcers in my throat and lungs healed.

Presuming that the principal virtue of the Indian vapour-bath consisted in the herbs, when thrown upon the heated stones, being converted into gas, I constructed a bath upon an improved principle, by which the properties of herbs could be held in suspension by compressed steam; and it is owing to the vapour being inhaled by the lungs, that the wonderful healing powers of the bath are achieved. My great ambition now was to raise the powers of plants by means of steam passing through them. I partially succeeded in raising their most volatile powers, and consequently got the bath into full operation. The success that attended my mode of treatment, was

not only manifest in a great variety of disorders, but a Committee of Gentlemen, who had watched my proceedings, gave in their Report a full and satisfactory testimony of the superiority of my system over any thing they had hitherto witnessed.

In 1824 I went to America, in order to procure a supply of plants for medicine as well as for medicating the bath, and to secure sufficient from their proper locality to meet my wants when I returned to England. I took a vapour-bath with me, but found I could not use it with the fresh herbs from their native soil, owing to their being in that state too powerful and their gross particles too strong for the patient to bear and inhale when passed through the bath and digester made in London. I had a new one constructed: the holes of which were made smaller to compress and divide the steam, and make it more fit for respiration. My anticipations were fully realized; as I found, that by compressing the steam, the gummy and resinous properties of the plant were more effectually held in suspension, and passed through the small perforations into the tent where the patient was seated. As the number of patients at this time increased, the various virtues of the plants were fully developed, and consequently their fitness or unfitness for medication ascertained. I soon found that many, which were fit for medicine, had no merit to recommend them for medicating the bath: particularly such as gave out carbonic acid gas. The suitableness of the plants for medication (after being selected with great care), was proved by trials made on myself and other strong persons.

At this improved stage of the system, I was recommended to take out a patent, by one of the supreme judges in America, to prevent ignorant and vicious persons from bringing the vapour-bath into disrepute. I acquiesced, procured one, and soon pointed out its advantages to the public. Such ad-

vantages can only be derived by attending to the three following essential rules:—First, that before taking the vapour-bath, the bowels be properly evacuated, if they require it; for whatever is in the stomach, whether morbid or healthy, by the action of the vapour, will be drawn into the system. Secondly, the patient should not use any poisonous drugs while taking the bath: and thirdly, no improper medication should be employed. The last recommendation should be as much attended to, as administering medicine by the stomach; for when the poisonous powers of plants are taken into the circulation of the blood, they are as likely to produce as much harm when inhaled by the lungs as when taken by the stomach. Notwithstanding, the consequences of taking medicine by the stomach are by far more aggravated in a general point of view; for if taken when there is much acridity or acidity, death has been known to ensue: whereas, the medicine would have produced no harm, had the stomach been in a healthy state. This circumstance points out the superior advantage of inhaling the virtue of herbs by the lungs, and carrying it into the circulation without coming in contact with the food. In order to show the effect of the gaseous properties of plants on the constitution, I have only to cite a fact that is of common occurrence in North America. Should poisonous plants (for instance shumack), be thrown upon one of the wood fires, a family, by inhaling the fumes, would be poisoned. I have known instances, where persons have been attacked so suddenly by the poison, that they have not been able to walk or assist each other.

To ascertain the properties of the gasses, I had a bladder-jacket made air tight. This I put on a patient, and tied the parts round the neck, arms and body, quite tight. When the patient began to perspire, the jacket was raised on all sides like a blown bladder. The stop-cock I had fixed to the jacket,

to draw off the gas ; and upon the gasses being analyzed, they were found to vary as much as the disorders of the patient. They principally consisted of carbonic and phosphoric acid, sulphurated hydrogen, ammoniacal, olefiant, and azote. Some patients gave out a gas, for which we could neither find a name or a test to detect it. Having placed all the test-papers under the patient's armpits, I could upon examination discover whether acids, alkalies, salts, calibeates, acrids or putrid ferments occasioned the disorder. So truly did the tests correspond with the virulence of the disease, that, without failing once in ten times, I could point out the worst cases by looking at the test-papers. Another method of arriving at the same result, was, by analyzing the perspiration. In all scrofulous cases, acids prevailed ; in cancer, acrimony and alkalies ; in scorbutic, salts ; and in spasmodic diseases, tetanus and lock-jaw, calibeates and tonics.

A remarkable instance of the perspiration being impregnated with the disease or what had been received into the stomach, is, that when any person has drank brandy and water half an hour previous to receiving the bath, the towel with which he is wiped will smell of the spirit. Vinegar, garlic, onions and various other strong smelling vegetables have a similar tendency, in addition to their volatile parts, passing unassimilated through the system :—thus shewing the doctrine of vitality and assimilation, so long taught in the schools as unfounded ; and proving the utility of the bath for accelerating the effects of alterative medicines, drawing them into the system, changing the state of the body in constitutional diseases, and increasing the action of the absorbent system.

The Patent Medicated Vapour-Bath, employed with the Vegetable Decoctions, is a powerful auxiliary in the cure of diseases : its effects are :

1st. To equalize the circulation of the blood, and hence to re-

move coldness of the hands and feet, and to lessen the determination or flow of blood to the head.

2nd. To promote sweat, and re-establish insensible perspiration, and thereby to relieve symptoms of internal inflammation.

3rd. To diminish nervous irritability : and in no instance has it failed to cure *tic-doloureux*.

4th. To promote cutaneous irruptions, and remove diseases of the skin.

5th. To remove the effects of mercury from the system.

6th. To promote absorption of dropsical effusions.

7th. To relieve difficulty of breathing, and hence to cure asthma, and other diseases of the chest and lungs.

8th. To strengthen the stomach, and impart a tone to the digestive organs, and cure dyspepsia, with its consequent disorders.

9th. To promote the healing of scrofulous and chronic ulcers.

10th. To remove gouty and rheumatic pains and swellings from the joints, and cure lumbago, sciatica, &c.

11th. The quinsy—the bath has never failed to relieve it.

12th. The croup—it may be regarded as a specific.

13th. The whooping-cough—gives great relief.

14th. The Measles—no instance of death having taken place, when the bath has been employed.

15th. To prevent and cure discharges of blood from the lungs and other internal organs of the body.

16th. To cure acute and chronic inflammation, the bath, judiciously medicated, is a certain specific.

17th. To cure gout, in all its forms, in a shorter period of time than any agent hitherto employed.

18th. The bath has never failed to cure cholera morbus.

19th. Intermittent (or agues) typhus and continued fevers—the bath has never failed to relieve and cure, without the necessity of blood-letting.

The American vegetable decoctions, combined with the use of the vapour-bath, ample experience has proved to be invaluable remedies for the prevention and cure of the yellow, putrid and typhus fevers ; and they are, therefore, particularly recommended to persons going to hot climates.

Having given a few observations and experiments which I have made on the vapour-bath, it will be of importance to publish a corroborative statement of the experience of some of the first medical practitioners in America. If the reader peruses the documents attentively, and compares them with any other species of baths that has hitherto been described, they will be found highly deserving public attention and patronage.

A Letter to His Royal Highness the Duke of York, Patron, the Vice-Presidents, and the Committee, of the Asylum for the cure of Scrofula and Glandular Diseases.

May it please your Royal Highness,—my Lords, and Gentlemen :—

Permit me on my return from the United States of America, to address you on the result of my exertions to complete the system, which I have so long and earnestly recommended to the attention of the British nation, for the preservation of health, and for the removal of those malidies which arise from indulgence in improper food, and other causes of virulent diseases or debility.

During sixteen years of diligent pursuit, I travelled through the United States, Canada, and the West Indian Islands as a practical botanist; my attention being principally engaged in the application of botany to the purposes of human life, as they relate to food or medicine.

Pursuing the system of Linnæus, and finding from numerous practical experiments that the opinions of that great and eminent naturalist were generally well founded, I was at a loss to account for the opposition presented to his opinions by so eminent a man as Dr. Cullen, in his lecture on the *materia medica*, delivered in the University of Edinburgh. The Doctor and some others commenced an attack on the aphorisms of Linnæus, on the following important points.

Linnæus declares his opinion in the humoral pathology; the mechanical operations of nature; the necessity of selecting our food; and that all diseases arise from the following causes:—First, impure water; secondly, improper food; thirdly, acid ferments; fourthly, putrid ferments; fifthly, from animalculi; sixthly, impure air. He has pointed out a plain and natural guide to mankind in the selection of food and

the use of medicine. First, from the class; secondly, the order; thirdly, the natural order or physiognomy of plants; fourthly, the smell; fifthly, the taste; sixthly, the colour; seventhly, the locality; eighthly, their chemical affinity.

For upwards of twenty years I have followed the principles of Linnæus, both in England and America, with remarkable success in the healing art; and have added to my former experiments many new ones, during my late visit to America, which, in every instance, tend to confirm the correctness of the observations of Linnæus.

That our health is deeply concerned in the care which we take in the selection of food, and even in circumstances generally overlooked by mankind, as I have often stated. In my observations on the nature and properties of grasses being deteriorated by weeds, particularly the butter-cup, I have been wisely asked, "What becomes of the butter-cup after it has passed through the stomach of the cow?" Many facts, however, have confirmed me in my opinion of the danger proceeding from poisonous herbs: and among others I may present the following letter from Dr. Renick to His Excellency Governor de Witt Clinton, directly bearing on the point: and those who ignorantly inquire what effects are produced by the species of food which passes through the stomach of a cow, may be referred to any dairy-maid in the country on the effects of the turnip, and the different flavours of cheese varying in almost every county.

Copy of a Letter to His Excellency the Hon. de Witt Clinton, &c. &c. &c.; enclosing a specimen of a poisonous plant.

Sir:—This vine, or weed, whatever it may be called, generally grows in low moist land, or round

the edge of swamps, and perhaps is the most poisonous vegetable that grows : horses, cattle and sheep feed on it in the fall : it very often proves fatal in a few hours. The first symptom is a trembling and weakness in the limbs. The cow that gives milk is not affected with it so long as she is regularly milked, but the milk is certain death to any animal, human or brute, that uses it to any extent ; and the flesh of any animal that dies with it also becomes fatal to the dog, the wolf, the eagle, or buzzard, that takes a full meal of it. The use of the milk has proved fatal to a great number of people living in the section of county called the Barrons, in this State, which lies between the Scioto and Bigmiami. It would be very gratifying to them to know whether there could not be some antidote discovered against its poisonous effects.

I have the honor to be, &c.

Chillicothe,
25th July, 1825.

FELIX RENICK.

His Excellency informed me, that, on a tour through the State of Ohio, he had learnt that the most dreadful effects were produced on many persons who used the milk of cattle which had fed on this plant. He requested me to ascertain its name and properties, that endeavours might be made to prevent its fatal effects. It proved to be the *Rhus toxicodendron* ; and on further inquiries in journeying from Albany to the Falls of Niagara, and in Upper Canada, I was informed, that infants on the breast had been poisoned through their mothers using the milk of cattle which had fed on the *Rhus*, while the mothers themselves received no injury,—one of the strongest proofs of the correctness of the doctrine of humoral pathology, so strongly objected to by a large portion of medical practitioners of the present day.

If I have trespassed too long in the preceding

remarks, the importance of the subject will, I trust, plead my apology. My system must stand or fall on the principles which I have adopted; and I trust the following account of my proceedings in America during a year commencing November, 1824, in addition to the success of my system for several years in this country, will be admitted as confirmatory of my opinions.

Previous to my leaving London in 1824, I addressed a letter to the Committee for conducting the Asylum at Bayswater for the cure of scrofula, stating my intention of revisiting America for the following purposes:—

“ To ensure a supply of the requisite medicinal
“ herbs adequate to the increasing demand of the
“ public, and to point out the situation, not easily
“ communicated by writing, where they may be
“ gathered in the greatest abundance, and in the
“ highest perfection.

“ Also to finish those practical experiments on the
“ aphorisms of Linnæus, upon which I had for many
“ years been engaged, and the completion of which
“ will prove of the utmost importance to the human
“ race.”

With such views and intentions I arrived in New York early in November, and was not a little surprised to find that the medical gentlemen of this metropolis had already stimulated their brethren on the other side of the Atlantic to a determined opposition to my plans. Had their motives been pure and disinterested, these gentlemen, who consider themselves as the only legitimate judges, and the guardians of public health, would have candidly investigated the merits of my remedies, and in the event of approval, would have hailed the discovery as a blessing to mankind. Instead of which, great pains were taken to circulate an inaugural address of Dr. David Hossack, President of the Medical Society of the city and county of New York, delivered on

July 12th, 1824; in which a very illiberal and libellous attack was made upon my character:—

“ The existing laws of the State, regulating the
 “ practice of physic and surgery, the statutes of our
 “ University, and the by-laws of this Society, I
 “ believe contain certain provisions, which, if pro-
 “ perly regarded, will in a great degree lead to the
 “ suppression of every species of quackery and im-
 “ position in our profession. In all ages our calling
 “ has been disgraced by the arts of the selfish and
 “ designing; and it is mortifying to observe in our
 “ city continued and most flagrant evidence of the
 “ successful career of charlatanery. I earnestly
 “ hope you will omit no effort within the legitimate
 “ reach of your authority to discountenance and
 “ suppress the whole tribe of nostrum-venders, and
 “ specific-mongers; and if upon experience you
 “ shall find that the present system of regulation is
 “ inadequate, that it will be deemed meet to super-
 “ sede it by obtaining from our legislature, a code of
 “ greater efficiency and vigour.

“ Many years since, the medical faculty in Lon-
 “ don expelled from their communion even the dis-
 “ tinguished and learned Dr. James; who, disre-
 “ garding the obligations due to his profession, and
 “ to society, became the vender of a secret febrifuge
 “ powder. In like manner, the most learned society
 “ in Europe erased from their list the celebrated
 “ Lower, who had been convicted of venal practices;
 “ and, within a few months, as we are informed by
 “ Dr. Johnston,* the name of Dr. Thornton, once
 “ highly respectable, has been in a similar manner
 “ disgraced, by being struck from the list of the
 “ Royal College of Physicians, because of his asso-
 “ ciation with an itinerant quack or vender of Ame-
 “ rican herbs in London.†

* Medico Chirurgical Journal, Dec. 1823.

† After an apology to Dr. Thornton by the College of Physicians, his name has been re-inserted in their list.

“ The spirited journalist goes on to remark, that
“ in his opinion, ‘ Dr. Thornton’s conduct, in aiding
“ the Whitlaw imposition on public credulity, richly
“ deserved this mark of disapprobation ;’ and adds
“ his hope, ‘ that immoral and unprofessional conduct
“ shall be often served in this way in future. A
“ similar course of decisive and vigorous conduct on
“ our part, would probably be productive of similar
“ beneficial results, in preserving the respectability
“ of the healing art in the United States.’ ”

Dr. Coventry, President of the Medical Society of the western district in the state of New York, in his inaugural address attacked me, and also the motives of the Committee, in the same illiberal and ungentlemanly manner ; and added, “ What a simpleton John Bull was, to be imposed on by such a set of men.” A copy of this address may be seen in Dr. Beck’s Medical Journal of New York. No sooner had I set my foot on the American shores, than some of my friends said, something must be done to prove to the American people I was not deserving those vile aspersions which had been cast upon my character by the two inaugural addresses above alluded to. I stated that my treatment of the afflicted would soon convince them how unjust were their malignant remarks. I accordingly offered to divide with Dr. Hossack a hundred patients, and try who could cure them the soonest ; which offer he refused more than once. I went to Utica, about two hundred and sixty miles from New York, and made Dr. Coventry the same offer, which he likewise rejected, though the gentlemen who accompanied me used every argument in their power to induce him to accept the challenge. We found the Doctor was determined to abide by the old Roman maxim—“ To guard the honour he had got.” No sooner did the American people see the value of my discoveries, then they passed the highest eulogiums upon

the Committee for their laudable zeal and indefatigable investigation,—their only motive being the cause of humanity.

These addresses were put into the hands of my most intimate friends,—in reading-rooms, and places of public resort,—and every endeavour made to disparage my practice.

In this state of matters I proceeded to Washington, where I obtained a patent for my discoveries, and set about curing such patients as presented themselves, and succeeded in several desperate cases. The unexpected cures which I had the satisfaction to effect, attracted the attention of the President, and a considerable number of the Members of the Senate and Congress,—and some of them became my patients. Their favour and support, entitle those gentlemen to my warmest gratitude.

In the city of Washington a Committee was formed, who purchased my patent right in the bath, for the use of the public; of their first report the following is an extract.

WHITLAW'S PATENT VAPOUR-BATH.

Report of the Committee, appointed by the Subscribers, for the purchase and use of Charles Whitlaw's Medicated Vapour Bath, at a General Meeting of Stockholders, convened at the Museum in Washington City, April 26, 1825,

S. B. BARRELL in the Chair.

The Committee appointed by the Subscribers for purchasing Mr. Charles Whitlaw's medicated vapour bath, to superintend the use of the same in this city, conceive that the time is arrived when they ought to report more fully to the public, what they have now learned from experience and observation, during the

last two months, of the real use and efficacy of the bath. They will detail nothing but facts that have come within their own knowledge, which, with some general observations on the nature of warm or vapour-baths in general, and of the specific difference of this from other baths, and the regulations which have been adopted for its use in this city, will comprise all that they wish to say, until further experiments shall have extended their knowledge of its powers and utility.

Since the bath was opened on the 10th of March, it has been used by fifty persons, of all ages from seven years to seventy, one hundred and twenty-four times. We believe that in all these cases it has been useful, but the most numerous class of cases in which it has afforded almost immediate relief, and in several, complete cure, are those of recent colds, rheumatism, inflamed eyes, eruptions on the skin, scrofulous swellings, and general debility.

A considerable number of patients, whose eyes were so diseased that they had been completely laid aside from their usual avocations for many weeks, and suffered intense pain so as to deprive them of sleep, and who had been subjected to the usual course of bleeding, blistering and depletion by cathartics in vain, have been effectually cured by the bath: in some cases, by three times using it; in others, six or eight times. Some of these persons are citizens of great respectability, to whom a personal reference can be made. Dyspepsia, nervous irritability, and general debility, have been greatly relieved by it. Its efficacy in cases of irregular arterial action, whether it has been too rapid or too slow, has been strongly marked in several instances. In the former the pulse has been reduced, and in the latter increased; and in all cases a great equalization of the circulation, and a lessening of the tendency of the blood to the head, has been the speedy result of using the bath a very few times. It has a

remarkable effect of clearing the skin from troublesome irruptions, and giving it a softness and freshness that is a striking indication of improved health. We have heard persons express their fears lest, in a state of great debility, it might prove injurious and dangerous. We can safely state that, to our knowledge, the weakest persons who have used the bath, have been strengthened by it; and we have not known a single instance in which the repeated use of it has not increased the vigour and activity of the patients. It doubtless requires some continued experience in giving of the bath, to prevent the possibility of its being misused; and that experience we are daily acquiring.

Thus far we can speak from our own knowledge, and several of the medical gentlemen of this city, who have advised their patients to use the bath, can vouch for the truth of some of these representations.

Vapour-baths in this country have usually been the mere exposure of the body (except the head) to sulphurous exhalations, with a view to relieve rheumatic affections; or else the application of vapour by a spirit-lamp, to a patient in his bed, so as to produce profuse perspiration. But this latter mode has been found exceedingly inconvenient, and, in some instances, highly dangerous, from the excessive damp imparted to the bed-clothes by the operation. Besides, it is evident that no other object can be effected in this way, than merely exciting perspiration, and that without due regulation.

Mr. Whitlaw's vapour-bath has not only decided advantages in these respects, but it attains other ends. Every one knows that various plants possess highly important medical virtues, and hence they are used in various infusions in all countries, for the purposes in which experience has pointed out their efficacy. In this bath, these herbs, properly prepared and preserved, are combined according to the object they are intended to effect. They are en-

closed in a condensing box beneath the tent in which the patient sits, and steam, at a high temperature, being forced upon them from an adjacent boiler, their essential oils are carried up in the form of vapour, and fill the interior of the tent ; which vapour not only acts upon the skin, but is inhaled by the lungs, and produces a grateful, but powerful effect on the whole system. During the fifteen or twenty minutes which the patient remains in this fragrant atmosphere, the perspiration usually flows copiously, and by constant wiping of the body the pores are opened and cleansed. After coming out of the bath it is necessary to use the aid of an assistant to wipe the body perfectly dry, with as much friction as possible ; and after dressing, to take the refreshment of a cup of coffee, remaining in the house half an hour or more, and then, in fine weather, a good brisk walk in the open air, will not be attended with any danger, provided he be in sufficient health to enjoy it. Nothing more is necessary than to avoid a sudden chill from a cold draft of wind, or a damp atmosphere.

It has been doubted by professional men whether any effect could be produced on the viscera by the combination of the medicinal virtues of herbs with the blood, in its passage through the lungs, in the act of respiration. It is, however, known, that important effects have been produced by vapour from mercury, sulphur, and other minerals ; and we see no reason to doubt but persons possessed of medical science may, by a similar use of herbs, produce beneficial results in far more numerous and obstinate diseases than we are at present prepared to speak of. In the first access of bilious fever, it may prove eminently useful. We request our physicians to make such experiments, and if they succeed in reaching some latent diseases by a method hitherto unknown or neglected, we are sure they will not reject the agent because it has not hitherto been in the regular course of practice.

This explanation of the nature and present state of the Medicated Vapour Bath Institution, in the city of Washington, is respectfully submitted to the consideration of the stockholders, by

THE COMMITTEE.

I leave the preceding report to speak for itself, and pass on to notice my visit to Charleston, in South Carolina, where I passed some time, and have particularly to acknowledge the kind and liberal reception I met with from several gentlemen of the faculty, and many other respectable persons. Here also it was my happiness to succeed in the cure of a number of persons, and the alleviation of others. In this city a company was formed, including five medical gentlemen, who purchased the patent use of my bath, and have established it on a very extensive plan. The following letters I have received from Drs. Holbrook and Shecut.

Copies of Dr. Holbrook's Letters to Mr. Whitlaw.

Charleston, April 23rd, 1825.

Dear Sir,

Having attentively examined the effects of the medicated vapour bath upon your patients, I feel it an act of justice to state, that whatever may have been my previous opinions, or if you will, my prejudices upon the subject of baths as a means of curing disease, I am constrained to allow, that the great and unexpected relief which has been experienced in a short time by the suffering and afflicted under your guidance, has gained my entire confidence: I have in two days time literally seen "the lame his crutch forego." The complete cures of long protracted cases of chronic disease, which now have every appearance of continuing, will render your invention highly acceptable to the medical pro-

fession, by removing from their hands a class of patients of which they in general would be gladly freed. I have also been surprised at the sudden cures of several severely acute diseases, which you have effected during your residence in this city. Your new application of a long catalogue of remedies heretofore neglected has commenced a new æra in the practice of medicine, and will hand your name down to future generations in the long list of worthies who have benefited the cause of humanity.

I am, with respect and esteem,

Your sincere friend,

MOSES HOLBROOK, MD.

To C. Whitlaw, Esq.

S.M.C.A. Socius.

J. H. Duncan, M.D., concurs in the above opinions.

Charleston; December 29, 1825.

Dear Sir,

Your letter of the 29th of September, from Philadelphia, was received on the 15th of October, too late to comply with your request by the 20th, in New York. From time to time I will, agreeably to your request, send you such bath cases as opportunity may offer. From the hour you shewed me your bath at Mrs. Cockrane's, about the latter end of March last, and described its powers and efficacy to me, I have continued to nurse it as a favourite child; it was the means of restoring a beloved wife to a comparative state of health, and has been the sole means of her enjoying it in a degree that she never could have experienced without its aid; and I verily believe, it has prolonged her life from last May to the present time, with a reasonable prospect of its continuance for, I hope, many years yet to come. She was, as you can recollect, when I first carried her to your establishment in King-street, at death's door from phthisis pulmonalis of long standing;

cough, expectoration, night sweats, sore throat, diarrhœa, loss of appetite, great emaciation, wakefulness, &c., were amongst the prominent symptoms of her case; and for *eleven months* previous she had not been able to walk about, or even sit up from her bed, more than an hour or two at a time. Now her appetite is good, no cough nor expectoration, good sleep at night, sits up all day, goes up and down stairs at pleasure, and often walks round to the baths, No. 3, Chamber-street, and back again after a bath without fatigue;—for this great relief she feels solely indebted to your bath. That my zeal in the cause of bathing might not be without knowledge, I have devoted, since I saw you, my leisure hours to searching in the original languages what I could glean upon the subject from the Greek and Latin, together with the French, and other European writers. The result is a large manuscript upon bathing, for the use of the bath and such as frequent it. You appear to have united in your baths, the principles of all that is valuable in bathing, whether ancient or modern,—whether used by civilized or uncivilized nations, residing in the cold or hot climates of the earth.

Those you established in this city appear to answer thus far the reasonable expectations of the associates. On the first day of October last, five months and twelve days after the Company received it from your hands, 386 different persons had tried it; of this number 246 were patients, 132 cured, 98 relieved, and only 16 received no relief: some of these 16 took only one or two baths, and could not be cured of dropsy or phthisis; of the 98 relieved, some have been since cured. Of the diseases, 66 rheumatism, 14 consumption, 21 bad colds, 24 cutaneous affections, 25 fever and ague, 5 bilious fever, 8 liver affected, 4 hæmorrhoids, 1 leprosy, 3 scurvy, 13 scrofula, 4 bad ulcers, 7 asthma, 10 dropsy, 2 dysentery, 1 pleurisy, 5 palsy, 7 sore throat, 3 leucorrhœa, 2 suppression of the menses, 2 hæmoptysis, 2 erysipe-

las, &c. You will see when you compare our little population with your own city, that we have done very well indeed. We shall be always happy to hear from you of your health and welfare, and also all things relating to the baths: all publications relating to it, which may make their appearance, would be of service in putting down interest and prejudice. Mrs. H. begs a kind remembrance to yourself and lady, in which I most cordially join.

With respect and esteem,
I subscribe myself your sincere friend,
MOSES HOLBROOK, M.D.

To C. Whitlaw, Esq.

Copy of Dr. Shecut's Letter to Professor Mitchell.

Charleston; April 21st, 1825.

Dear Sir,

It has been my good fortune to be made acquainted with Mr. Charles Whitlaw, whose talents as a botanist are generally well known and appreciated in this country, I have also had an opportunity of investigating the principles, and in several instances of witnessing the effects of his invaluable medicated vapour-bath; and I am confident that those principles require no more than a candid and unprejudiced examination to render his practice acceptable to the scientific and humane, and adopted and used in the particular practice of physicians. The *modus operandi* of the process, and its effects in the particular diseases for which it is used, are no less rational than they are truly scientific; and as the vegetable kingdom affords to our *materia medica* an extensive choice in the different classes of their medical virtues, that have been tested by ages of experience—if to convert the essential properties of those simples into vapour, and thus to cause the inhalation of those vapours to effect the relief or cure

of individuals labouring under disease, be an innovation upon the science of medicine, so also must every recent chemical product, and every new formula, offered as a remedy, be deemed likewise an innovation.

I am aware, my dear Sir, of the important necessity of guarding against imposition in the practice of medicine; but I am qualified to say, than an acquaintance with Mr. Whitlaw, and an accurate investigation of the principles of his discovery, and the *rationale* of his practice, must eventuate in the decided approbation of every liberal practitioner, and of every friend to humanity: and with myself I am inclined to believe, they will cheerfully hail him as amongst the greatest benefactors of our country.

As this gentleman is on the eve of his departure for your city, I have availed myself of the opportunity of addressing you on the subject, conscious of the very great pleasure you experience in facilitating the views and promoting the designs of the humane and benevolent: and as the encouragement of this practice promises the greatest possible advantage to afflicted mortals, I cannot do otherwise than respectfully to urge to your attentive consideration the merits of this gentleman and his important invention. Permit me at the same time to apprise you of an advantage likely to result to our tropical cities from the use of this simple and elegant invention,—the prevention and cure of that fatal scourge to our population, the yellow fever.

Should the event justify the prediction (and from the very nature of its application and effects it appears next to impossible to fail if timely and judiciously resorted to and applied), shall we not have abundant reasons to class this indefatigable friend to science and humanity with the immortal and lamented Howard, Valli, and other renowned benefactors of men.

It is my design to urge the adoption of this bath in the medical treatment of yellow fever; and I very sincerely believe, that with judicious management it will be found capable of effecting the reduction of the first stages of that disease. I should also urge the propriety of alternating electrical friction, sparks and modified shocks, with the bath: in both cases, however, the stomach and bowels are to be previously evacuated.

Be pleased, my dear Sir, to pardon the length of this letter: the importance of the subject, however, will, I am certain, be its best apology with you. At the same time I must entreat your forgiveness for the great lapse of time that has passed since I last wrote to you. Incessantly occupied with electrical practice and the formation of a new system of electricity, reducing it to a regular science, demanding almost every spare moment, will, with you, plead strongly in extenuation of my seeming neglect. I need not I presume say more to convince you of the sentiments of esteem and regard I have ever entertained for you, and pray you to accept the cordial salutation of

My dear Sir, your's most respectfully,
R. E. W. S. SHECUT.

*To Professor S. L. Mitchell,
New York.*

From Charleston I returned to New York, where I found the public opinion not only changed, but that many respectable persons appeared much interested in the accounts they had received of my success in the cities of Washington and Charleston: and so great was the desire for making trial of my remedies, that, within three weeks times, two hundred and twenty-four patients were introduced to my attention. A bath company was here also formed; His Excellency Governor de Witt Clinton (who had re-

ceived personal benefit from the bath), was the first to subscribe, and was followed by Judge Herttell, and many other respectable persons, with seven doctors.

I was equally successful in the establishment of baths in Albany, where His Excellency the Governor again headed the subscription, and was followed by General Van Ranselier, and Judge Spencer, the Mayor. Here also six gentlemen of the faculty united with them. Baths were also established at Hudson, New Lebanon, and Watervleit, and preparations for the same purpose are making in Troy and Lancinburgh, in the state of New York.

Copy of Letter from Drs. Lawrence and Henrickson.

New Lebanon, May 21st, 1825.

Worthy Friend,

Having made a thorough trial of the medicated vapour bath for four months past, in our societies in New Lebanon and Watervleit, we think it but justice to state, that we consider it an invaluable improvement in the healing art. Its power in reducing both chronic and acute inflammation, also in removing spasm, is certainly very great. In cases of obstructed perspiration, it is unquestionably the safest and best remedy that we have ever seen. Several persons in our society, who were scarcely free from a catarrhal affection during most of the winter months for several years past, have found permanent relief by using the bath a few times, and the predisposition to take cold, as it is commonly termed, seems to be wholly removed. Obstructed perspiration is certainly, in our changeable climate, one of the most fruitful sources of disease; and any remedy that is capable of removing the predisposition to it, must be considered a great blessing to mankind; and as such we do not hesitate to recommend the medicated vapour bath,

when used according to your directions, as a scientific and rational remedy in various diseases. Accept the assurances of our best wishes for your welfare.

GARRET K. LAWRENCE, M.D.

ABRAM HENRICKSON, M.D.

*To Mr. Charles Whitlaw,
New York.*

Previous to my leaving New York, the Committee of the Vapour Bath Company requested the seven doctors who superintended the bath, to send in a report of their respective cases for the quarter ending 1st October, 1825, the number, and the various diseases with which they were afflicted.

The following is a copy of Dr. William Ireland's cases.

Out of the number of cases submitted to the bath, 227 have been cured; and it is but justice to state, that in acute and chronic inflammation, more benefit has been derived from the use of the medicated vapour bath in twenty-four hours, than I have ever witnessed in a month's most successful practice.

The following is a list of the disorders included in the above 227 cases.

Obstinate visceral obstruction.

Acute and chronic affections of the liver.

Scorbutic diseases of the skin.

Scabies and old inveterate cutaneous disease.

Scald head, salt-rheums, ring-worms, &c. &c.

Jaundice, lumbago, sciatica.

Acute and chronic rheumatism.

Asthmatic diseases, spitting of blood.

Palpitations of the heart, attended with weak small intermitting pulse.

Obstinate diarrhœa.

Erysipelatous inflammations, ophthalmia.

Obstinate glandular and scrofulous diseases.

Obstruction of urine and menses.

Strangury, spasmodic strictures, &c. &c.

Syphilitic sore throat, eruptions of the skin.

Nodes, ulcers, &c.

Tic douloureux, and nervous irritability.

WILLIAM IRELAND, M.D.

In addition to the long catalogue of diseases enumerated by the medical practitioners, permit me to name a few more which came immediately under my own peculiar treatment, and wherein no instance of death occurred,—on the contrary, I left them either perfectly cured or convalescent. The disorders I allude to are the following:—atony of the muscles, atonic gout, elephantiasis, cholera morbus, cholera spasmodica, quinsy, croup, hooping-cough, measles, and gout.

In Philadelphia, the baths were established under the superintendence of four highly respectable medical gentlemen; and my most grateful acknowledgments are due to Mr. Watson the mayor, Mr. Haines, and other gentlemen, to whose kindness and liberality I am greatly indebted.

I paid a short visit to the city of Boston, where my system was most favourably received; Dr. Ingalls received me with the kindness of former friendship, and introduced me to Doctors Reynolds and Jeffries.

From the length of this letter some apology may be due, for trespassing so long on your attention. There are many incidents, however, which I have purposely omitted, and the account of the various cities which I visited is abridged as much as possible for the present. Yet I trust the result will be as satisfactory to my friends in England, as to those in the western world. Every experiment I have been able to make has confirmed my opinion that scrofula may be eradicated from the kingdom altogether, and that dyspepsia, with its long train of disorders, will be alleviated and cured by pursuing my system of

medicine, regimen, and the vapour-bath ; and that the greatest benefit may be derived from due attention to the aphorisms of Linnæus, as applicable to the purposes of life and health.

Having returned, by the blessing of God, to this metropolis once more, with a degree of prosperity and success which has exceeded my expectation, and with an abundant supply of plants for the purposes of medicine and medicating the baths, prepared and packed in a peculiar manner, calculated to retain their full physical powers unimpaired for a considerable length of time, samples of which I have ready for your inspection, I trust that my system will prove of essential benefit to the British nation, by relieving the afflicted ; and, in a great degree, tend to prevent those formidable diseases that are eating like a gangrene into the very vitals of the community.

To your Royal Highness, and those Gentlemen who have patronized the Asylum, I beg to present my most heartfelt gratitude, and with the greatest respect, to subscribe myself

Your most humble Servant,

CHARLES WHITLAW.

No. 23, Finsbury Circus ;

Jan. 1, 1826.

Copy of Letter extracted from the Gazette of Health, on Mr. Whitlaw's Patent Medicated Vapour Bath, October 1st, 1826, addressed to the Editors.

New York, August 1st, 1826.

Sirs,

Having been in the habit of reading your useful work, and observing its increasing circulation, both at home and abroad, I have thought proper to address to you a few lines respecting the use and virtues of the medicated vapour bath, introduced and patented

in this country, about two years ago by Mr. Charles Whitlaw.

This simple, though very important invention, is beginning to attract observation and awaken inquiry among many of the most liberal and well-informed physicians in this country, and will, ere long, be in very general use. I have superintended the establishment, formed in this city for the purpose of testing its usefulness and trying its effects, as a means in alleviating and curing disease, and have seen administered for that purpose about six thousand baths. From the results of this experience and attentive observation, it will not, I hope, be considered presumptuous in me to say that I can speak with much confidence respecting its utility as a remedy in numerous complaints. If it be considered only as a simple warm vegetable vapour bath, its superiority over the warm water baths is not to be calculated. The vapour bath possesses the power of producing diaphoresis, or profuse perspiration, in *any state of the body*, at will; therefore its effects must be salutary, efficacious, and powerful. The proximate cause of morbid or diseased action is, by the most eminent physicians, attributed to a deranged state of the exhalent arteries of the skin or follicles immediately under it; and when this insensible exhalation is not present, disease must, to a greater or less degree, supervene. Indeed, perfect health cannot long continue without it; while a contrary condition, such as heat, dryness of skin, ardent thirst, &c. &c., is at all times more or less present in disease. It cannot, in fact, be otherwise; for the substances thrown off by perspiration are positively deleterious, being partly composed of carbonic and nitrogen gasses: hence the numerous contrivances and means adopted in all ages and in all countries to promote this absolutely necessary and healthy action of the extreme vessels of the surface. If, I say, the bath be considered only as a simple vegetable vapour, or rather effluvia,

possessing these powers at will, its obvious utility as a remedy cannot for a moment be doubted. If it be considered as a *medicated* vapour bath, it may be observed that the practice of inhaling the fumes, effluvia, vapour, &c. of different substances, such as the fumes of tar, &c. for diseases of the lungs, smoking stramonium and other narcotics in asthmatic affections, cinnabar, &c. in ulcerated sore throats, &c. &c. but never to the same extent, or in so effectual a manner, until this simple, efficient, and happy invention, by Mr. Charles Whitlaw. When the body is labouring under disease, the restoration of that salutary discharge called diaphoresis, or perspiration, has long been the *desideratum* of the profession, and is in all cases the first symptom which indicates an approach towards a recovery ; and where that cannot be accomplished, morbid action must be present, and disease continue. “ A crisis,” says a learned author, “ is the actual discharge of morbid matter, whether by the bowels or skin, brought on by the powers of nature, or the aid of medicine.” Here then, I say, is the desideratum at once ; for, in any state of the body, this actual discharge can be brought on at will, and consequently a crisis formed in any stage of the disease. It would be a useless occupation of time and space to notice here all the particular effects produced on different habits and complaints, by the administration of about six thousand baths for the relief and cure of different diseases ; but I feel myself called on by candour and truth to state, that I have never found its equal, as an aid to the means in our power, for the relief of suffering humanity ; and when placed in the hands of those who will not abuse its merits, or blend its usefulness with empiricism, its advantages are not to be calculated. Its manifest and immediate effects are, an agreeable and pleasant cleansing or purification of the whole body, producing an equal and general stimulation of the functions of the skin, and promoting animation, liveliness, and

desire of food. It immediately relieves retropulsed eruptions, constriction, congestion, spasm, asthma, cholic, ardent fever, ardent and unquenchable thirst, dry and hot skin, &c. &c.

In cold listless habits of body, attended with a depravity of the functions of secretion, particularly those of the skin, the bath has never failed to produce the most beneficial effects; many having attended who had not experienced the pleasure of a natural perspiration, or a soft moist skin for several years previously to their taking the bath. Its happy effects in green sickness, phlegmatic and debilitated habits, have been manifested in numerous cases, far beyond expectation. At the commencement of the cold stage, or at the accession of the febrile paroxysm, its effects are happy and instantaneous, and in most cases (if care be taken), a cure will at once be effected. In fact, its usefulness as a remedy in the practice of medicine is not to be calculated; and the field which is opened by this simple and invaluable invention, to the inquisitive and philosophical members of the profession, is immense.

I am, Sirs, your constant reader and friend,
W. M. IRELAND, M.D.

To the Editors of the Gazette of Health.

Letter of William Ireland, M.D. to Mr. Charles Whitlaw.

New York; September 30, 1826.

My dear Sir,

I received yours of the third of the last month, and am happy to hear that you and Mrs. Whitlaw are in health. Notwithstanding the illiberal opposition you have to contend with, the great merit of your invaluable discoveries will carry you through. You will no doubt be anxious to learn how we are

coming on here. We have removed our establishment to No. 71, Nassau Street, near the Park, and placed Mr. Corrall and his wife in charge of the house, who seem to answer very well. I received the paper in which was your Annual Report, just in time for the Meeting, and which gave us a great deal of pleasure. I have received letters from Dr. Ingalls, Dr. Lawrance, and Dr. Holbrook; all speaking in the highest terms of the bath, and of the many obstinate and hitherto unmanageable diseases relieved and cured at their different establishments. Dr. Lawrance mentions among his cases, obstinate obstructions of the uterus, obstinate and long standing rheumatism, deafness, hydrothorax, hydrops, pericardium, anasarca, erysipelas, chlorosis, sciatica, wounded nerve, &c. Dr. Ingalls mentions that the beneficial effects of the bath far exceed his most sanguine expectations. He has treated with great success cases of diseased prostate glands, indurated and scirrhus testicle, attended with enlarged spermatic cord, a variety of scrofulous cases of an obstinate and formidable nature, hemoptysis, rheumatism complicated with syphilis, cutaneous diseases of the most obstinate nature, &c. &c. Dr. Holbrook has been equally successful in its application to diseases peculiar to hot climates; such as bilious cholics, bilious fevers, jaundice, dysentery, cholera morbus, intermittents, &c. &c. Indeed, he has enumerated fifty different species of diseases which were brought under the list of the vapour-bath at the dispensary the first year; and out of 681 patients, 468 were cured, 186 relieved. With these and numerous other incontestible facts before us, who can dare to say, that the medicated vapour-bath is not one of the greatest blessings that ever was invented for the relief and cure of suffering humanity? I am myself so fully satisfied of its very extraordinary and powerful effects as an aid to general practice, that I would not be without it for all that I have hitherto known of my profession. It may for a time,

like all other valuable inventions, meet with opposition from the illiberal and uninformed ; but truisms and facts will certainly, though slowly, make their way ; and the time will come when the profession can no more do without the aid of the vapour-bath, than it can without the aid of the lancet. Had I been acquainted with the vapour-bath while many years surgeon to the British army in the West Indies, how many thousands of victims could I have saved from the unrelenting jaws of death ; and how would my mingled feelings of sorrow and regret have been changed to satisfaction and pleasure. I cannot conclude without enumerating a few extraordinary cases which have come under my care since I last addressed you.

About six weeks ago I was called to a patient who had been given up by his attending physician ; this patient, a young man about twenty years of age, had been ill about ten days with a severe paralytic affection of one side ; on my visiting him, he had lost all sense of motion, sight, speech, &c. and was then labouring under spasmodic twitchings of the muscles of one side, resembling the symptoms of the last stage of hydrocephalus. Tongue dry and brown ; skin hot and dry ; pulse quick and small ; evacuations involuntary ; and deglutition difficult : in fact, he appeared to be *iter ad mortem*. In this state I advised the bath ; he was placed in it, and supported by a servant, and the vapour rose to 106 ; when perspiration began to flow, his spasms ceased, spirits returned, and he drank off a tumbler of warm wine and water without much difficulty. He remained twenty-five minutes in the bath, and then was able to walk to his bed with the help of one person. The pulse rose and was less frequent ; the spasms did not return ; the perspiration continued to flow ; he took more tepid drink, and fell into a sound and quiet sleep, which lasted several hours : he awoke and asked for more drink ; continued to perspire pro-

fusely for twelve hours; had the bath every day, together with other medical treatment; and in two weeks was able to walk about; he is now quite recovered, and attending to his occupation. What an immense field of investigation does this open to us! Spasms and convulsive twitchings,—muscular contractions and constrictions,—restrained perspiration and obstructed secretions,—are all removed; when brought under this simple, though all-powerful agent, the medicated vapour-bath. I have a great deal more to say, but must conclude: we are all well, and hope this will find you the same.

WILLIAM IRELAND, M.D.

To Mr. Charles Whitlaw.

Letter of Mr. Herttell to the Honourable Ambrose Spencer, late Mayor of the city of Albany.

Sir,

Your letter to me, requesting information on the subject of the medicated vapour-bath in this city, was received and laid before the members of that institution, and by them referred to the medical gentlemen connected with the establishment, with a request that they would furnish, as far as their experience enabled them to do, the requisite information. In compliance with which resolution, I have received from them the following communication.

The physicians on whom, pursuant to a resolution of the New York medicated vegetable vapour-bath institution, you have called for information respecting the said bath, are happy in the opportunity thus afforded them of communicating the amount of their observation on that very interesting subject.

Aware of the errors which daily creep into medicine through the influence of high sounding names, popular credulity, or theoretical deduction, we have approached this new mode of administering medicine with much caution and careful inquiry, suffering ex-

perience alone to direct our footsteps ; and after six months' assiduous attention, we are enabled unequivocally to state, that we are convinced that the medicated vegetable vapour-bath, under judicious medical regulations, is a mild, safe, and efficient agent, in the cure of a large portion of the diseases to which the human family are liable. In diseases of irritation generally, we have found its application to be followed by a most happy, and in some instances, speedy effect. In glandular, visceral, and cutaneous obstructions—in leprous and herpatic eruptions of the skin—affections of the liver—chronic rheumatism—mercurial diseases—and in weak and stiff joints, where the parts have not been ankylosed by previous disease—we have found the bath, conjointly with other medication, regimen, &c. to afford decided relief ; and in a more especial manner have we been led to notice its efficacy in old inveterate local diseases, which had long resisted the efforts of men of high professional reputation. Those complaints yielding in most cases, and in some amounting to a complete cure, when the general treatment was aided by a well-timed and judicious application of the bath.

Our limited experience does not enable us to perceive all the varied forms of disease in which the bath may be ultimately found to be serviceable ; but we hope to ripen in the knowledge as we progress in the use of it, and will in due succession present to the public such facts and observations as experience may elicit.

We will not dwell at present on the precise or entire *modus operandi* of the bath now under consideration ; or defend the superiority of the operation of medicines administered through the medium of the *lungs* over that of the *stomach* ; these are points for future inquiry : we are only prepared to state, that this bath, under proper medical regulation, has reduced and cured diseases which the best regulated treatment had previously failed to do without it.

We disclaim all mysticism in the use of this bath. It is in our hands prescribed on the same principles as any other medicine. When a physician is called to a patient, he judges of the cause and nature of the disease, and prescribes the quantity and kind of agent he thinks most likely to relieve it; precisely on the same principle is the bath in question prescribed, with due regard to the state of constitution and habit of body at the time. We have some reasons to believe, that, besides the agreeable stimulus of heat, one effect of the bath is to relieve irritation and diffuse equable excitement over the whole system. Now, if it be conceded, that a great proportion of diseases depend upon undue excitement, and unnatural irritation, goading the system into wrong action, the agency of the bath in the cure of them is at once apparent, and a guide is afforded us of the quantity and frequency of its application.

Medication of the bath is not considered necessary in every case; the soft relaxing power of heated vapour externally and internally simultaneously applied, being all sufficient. When medicated, the same regard is had to the properties of the medicating material, as in the exhibition of medicines by the stomach, and the rules of prescription under certain modifications are the same.

In the infant state of this mode of administering medicine, we believe but few beyond the circle of its friends and associates are acquainted with its nature and character. In most of our cities to the south it is in successful operation, under the immediate direction of respectable medical men. In Boston and Philadelphia it has been very lately received with glowing expectations by men in the first walks of the profession, and has been approved and successfully prescribed in difficult cases by some of the most distinguished physicians in this city. In the true spirit of amity we cordially offer to all who feel interested in alleviating human misery, and particu-

larly to those medical gentlemen who have not yet made themselves sufficiently acquainted with the subject to dispel their first prejudices, a full exposition of the principles on which we profess to exhibit this new mode of medication, and all our experience and opinions in reference thereto; satisfied as we are, that the subject only requires to be candidly examined to be understood, and understood to be approved.

Thus much I am expressly authorized, on the authority of the medical gentlemen connected with the Institution, to say to you; and, though it may be unnecessary and perhaps presumptuous, I shall take the liberty and incur the hazard of subjoining a few remarks of my own.

You will observe, the physicians have omitted to quote in support of their general statement, particular instances in which the bath has afforded relief or effected cure. They have, and perhaps correctly, reserved a detail of such facts for a future occasion. I mean, however, to notice two or three cases, not so much with a view to add to their testimony of the efficacy of the bath as a medical remedy, as to protect it against the imputation of *quackery*, with which (as you allege) “some persons from ignorance of its efficacy or from prejudice, have denounced it.”

Permit me in the first place to remark, that I am not a physician, and may therefore be excuseable if I am not well informed of the precise signification which professional men have attached to the term *quackery*. I understand it to mean, in common parlance, “*malepractice in physic*”—or the exhibition of an injurious or useless pretended remedy, for diseases of the human or animal body; and he who prescribes, or exhibits such injurious or useless pretended remedy, is a *quack*. Neither of the two first of these definitions apply to the bath in question; nor the last to the medical gentlemen connected with it: because it is a fact, proved by the testimony of regular professional men, that they have “especially noticed

the efficacy of the bath in old and inveterate local diseases, which have long resisted the efforts of men of high professional reputation ;” and also that it has, “ under proper medical regulation, reduced and cured diseases which the best regulated treatment had failed to do.” Now, can that remedy be said, with any logical propriety, to be *quackery*, “ which has cured diseases which have long resisted the efforts of men of high professional reputation,” without placing the previous remedies, in point of efficacy, beneath that which is denounced as “ malepractice in physic ?” Would it not be libelling regular scientific practice, to denounce that remedy as a “ dangerous quackery,” “ which has reduced and cured diseases which the best regulated treatment, in common practice, had failed to do ?”

Mrs. G. was affected with elephantiasis, which, during eight years, had resisted the prescriptions of many professional men in the West Indies, Scotland and America. This case was radically cured by twelve baths, without any other material medical prescription. Here allow me to ask, is the remedy which effected a cure in the case before us, more deserving of the imputation of quackery than the previous prescriptions which were barren of benefit to the patient ?

Mr. C. of this city, was affected with the liver complaint nine or ten years ; during which time he had the advice and aid of twelve medical gentlemen of great respectability in New England, and in this city. His case was once examined at one of the Medical Colleges in Massachusetts by a Professor, in the presence of all the students, but he had never received more than a partial, trifling and ephemeral benefit. A large abscess, which had formed in his side in the region of the liver, was opened, and before it closed discharged nearly a gallon of matter. After it closed another appeared in the same place, and progressed so near to suppuration, as to deter-

mine the attending physician to open it in the course of three or four days. In the interim the patient concluded to try the effect of the bath. A single bath produced an evident and almost immediate diminution of the tumour; and in less than forty-eight hours the last vestige of it disappeared, and has not returned after the lapse of six months. Mr. C. is a well-informed and respectable man; and he stated to me, a day or two since, that from the time he was nineteen years of age (he is now twenty-nine), he never experienced more than a trifling and a transient alleviation of the symptoms of liver complaint, until he took the medicated vegetable vapour-bath; and that now, after a succession of baths, he suffers but very little inconvenience from the small remains of his disorder, which is still diminishing. Here the question again recurs, if the bath in this case was “a dangerous quackery,” in what grade of medical science are we to place all the previous prescriptions which, for years, had proved too inefficient to effect a cure?

A physician of a deservedly high grade in the first class of his profession, had a patient affected with a diseased hip-joint, for whom he prescribed the usual remedies, but without success. At a time when this patient was so debilitated as to be unable to walk but very little, even with the aid of crutches, it was determined, after much inquiry and investigation, to try the effect of the medicated vapour-bath. Six baths enabled the patient to walk about the house with crutches. Six more were succeeded by the ability to walk in the street with crutches. A succession of baths, probably thirty or forty, has enabled the patient to dispense with the use of crutches and to walk the street without them; and on the evening of the 29th of the last month, this person, in my presence, danced four or five cotillions without any apparent difficulty, or any subsequent injurious effects. Though the attending physician in this case failed to

effect a cure by the remedies in common use, yet that he was convinced by the result, that the bath was not “a dangerous quackery,” is clearly proved by the following case.

A person of great respectability in the western part of this state, had nearly a year been unable to walk without the aid of crutches, owing to a complaint in the knee. Several of the most respectable medical gentlemen in that part of the country, who were consulted on the case, entertained such various opinions as to the nature of the disease, as left it doubtful whether it was a white swelling or not. Their prescriptions afforded no relief, the patient was taken to Philadelphia, and placed under the care of one of the first professional gentlemen of that city. Obtaining no relief, and being (as I am informed) declared incurable, the patient left Philadelphia to return home almost hopeless of recovery. In this city, however, it was deemed adviseable to consult Dr. —, the physician alluded to in the case last stated; who having witnessed the efficacy of the bath in that case, recommended it as most likely to afford relief in the present instance. The result proved the accuracy of his judgment, and the efficacy of the remedy; for this patient, after a few weeks use of the bath, was enabled to walk without crutches, and to return home without the need or aid of them. Would it be just to call this gentleman a quack, whose advice was more beneficial to the patient, than that of all the other physicians who had previously prescribed in the case? And would it not be absurd as well as unjust to denounce his prescription as “a dangerous quackery,” when it produced that desirable result which all the other “regular treatment had long failed to do?” Does not the exhibition of useless inefficient remedies approximate more to “malepractice in physic” than those which afford relief or effect a cure? Does not that application of medical remedy which effects relief or makes a cure, approach nearer

to scientific practice, than that which, though sanctioned by the medical schools, is unavailing of benefit to the patient? It is not intended to insinuate, because it would be incorrect to allege, that the unsuccessful exhibition of medicine by regular professional men, savors of empiricism, merely because of its failure to produce the desired effect. But it is no less absurd to denounce that remedy “a dangerous quackery,” which relieves or cures diseases, “which have long resisted the efforts of men of high professional reputation,” and which, though not yet so generally understood as to be received into favour by the medical colleges, has been recognized, approved, and successfully prescribed in England and in this country, by medical gentlemen of the first class in professional reputation.

It is not to be understood that the aforementioned cases are all in which the bath has proved effectual as a medical remedy. A volume of such, and of those of more or less importance might be adduced by the physicians connected with the institution, were it necessary for the present purpose: although these are sufficient to shew that the bath, “under proper medical regulations,” is not “a dangerous quackery.” I am not disposed to close this communication without remarking, that it is always a good ground of suspicion, and most frequently a certain indicant of empiricism, when a remedy is recommended as an infallible cure for all disorders of the human system, however opposite their causes and different their characters. No such wonderful powers are imputed to the medicated vapour-bath in question. Its friends neither allege nor believe that it cures all disorders; or that it will at all times relieve, or cure the same disorder in different persons, or with the like facility. The causes of these different effects are latent, and probably various. The physicians neither affect to know or attempt to explain them. More experience, however, possibly may and pro-

bably will lead to their discovery, and also to the means by which they may be counteracted.

Another characteristic of empiricism is, that it seeks to evade inquiry, and shun investigation. Not so with the friends of the medicated vapour-bath, or the physicians connected with it. They have no objection that it should, as a medical remedy, be subjected to the most prying and rigid scrutiny. On the contrary, they desire it—nay, “in the true spirit of amity,” they have invited it, with a full conviction that on a fair and candid investigation, the efficacy of this bath will be found, in most instances, to cure even prejudice itself.

Some persons, probably for want of correct information, or with a design to bring this bath into disrepute, have confounded it with others which have been abandoned for their inutility, or are now justly condemned for the mischief they do. Those who are not disposed to propagate an error, perpetuate a mistake, or give currency to a falsehood, and who may feel an interest in knowing the truth on this subject,—can ascertain, by a well-directed and candid investigation, that this bath, in the construction of its machinery, its *modus operandi*, and in its efficacy as a medical remedy, is essentially dissimilar to all those with which it has been attempted to associate and confound it.

With much respect, I am, Sir, yours, &c.

THOS. HERTTELL.

*The Hon. Ambrose Spencer,
Mayor of the City of Albany.*

The following detail of the cases, in the relief of which the medicated vapour-bath has been found efficacious when all other remedies had failed, is taken from a paper published by the American Society, of which Dr. Ireland is the consulting physician in New York.

The great utility and happy effects attending the judicious use of these baths, in all diseases dependant on, or connected with, an obstructed state of the exhalants, or otherwise deranged action of the verrucæ, sebaceous, subcutaneous follicles, or other structural functions of the skin, are daily and hourly becoming more manifest, as is evinced by many of the most liberal and highstanding practitioners in the city using them in their own families, and ordering them in their private practice.

From a list of the most remarkable cases, which is kept at the establishment for the inspection of those interested, it will be found, that the complaints which most speedily and certainly give way to the use of these baths (with the aid of other proper medical treatment), are the following:—Rheumatic, syphilitic and gouty affections, attended with ulcers, blotches and eruptions of the skin, particularly when originating from the improper use or abuse of mercury. Scaled-head, daw-worm, salt-rheum, erysipelas, pimpled-face, dry-scurvy, leprosy, ring-worm, tetters, and all other obstinate and hitherto unmanageable diseases of the skin. Repelled or receded small-pox, measles, scarlet-fever, and all other exanthematous affections of the skin, are deprived of their alarming symptoms, when brought under the use of these baths; indeed, by their use (in the incipient and febrile stage), the future violence or mildness of the symptoms may be regulated at will. These are facts of the greatest importance, and merit a more strict and minute investigation, by the enlightened, liberal, and inquiring part of our profession. Putrid and ulcerated sore throats, croup, asthma, thrush, whooping-cough, quinsey, enlarged tonsils, ear-ache, deafness, tic-douloureux, &c., &c., are immediately relieved, and (with proper medical treatment) certainly and quickly cured. Nervous irritability, debility, and other asthenic and phlegmatic

affections, attended with cold hands and feet, nervous head-ache, indigestion, constipated bowels, tawny, sallow, bloated, husky, and dry skin, are found to experience immediate relief and quick recovery. Diseases of the liver, jaundice, bilious and painter's colic, cramp, spasm, convulsive fits, paralysis, epilepsy, visceral obstructions, dropsy, glandular obstructions, and scrofulous diseases, are relieved and cured by the aid of these baths, in a much shorter period, and with more certainty, than any other mode of treatment ever employed. Diseased hip-joint, white swellings, rickety and other diseases of bones and joints, where ankylosis has not absolutely taken place, are certainly benefited, and in most cases ultimately cured by the use of these baths, with proper diet, &c., &c. In obstinate and long standing intermittents, attended with organic and glandular derangement, the effects of the bath are most happy and certain; many having been cured by one single bath only, when taken at the very commencement of the cold stage. In typhoid and other ardent fevers, where perspiration and softness of the skin cannot be brought on, and where, consequently, the morbid poison and acrimonious secretions of the diseased body are choked up and restrained by an obstructed state of the exhalants and glandular follicles of the skin, these baths never fail to produce the wished for effects, and thereby put an immediate stop to the ravages of the disease. These salutary and curative effects thus produced on the peculiar septic state of the body, must be attributed to the escape of hydrogen and azotic gas, which is known to exist in diseased or putrescent animal matter.

What an unbounded and untraveled field do these very important facts present to the enlightened medical philosophers for investigation.

In sudden colds, checked perspiration, influenza,

swelling of the tonsils and glands of the throat, &c., these baths never fail to give instantaneous relief, and produce a certain cure.

If the occasional use of these baths be considered as a source of comfort and pleasure, they surpass any thing of the kind ever invented ; for they not only impart agreeable sensations to the mind, but keep the skin diaphanous and clear, and the body perfectly healthy. As a general detergent and cleanser of the surface of the body ; removing the dead particles of the cuticula ; causing the blood to circulate with freedom and ease in the most minute exhalant vessels of the skin ; lighting up as it were a fresh and healthy glow, even in the most sallow and tawny countenance, it is incalculably superior to any aqueous bath in the world. They relieve exhaustion, langour and fatigue, raise the spirits, and tranquilise nervous irritability, assist digestion, and increase appetite. These effects are partly produced by the agreeable feelings, and pleasurable warmth of the vapour ; and partly by the inhalation and absorption of the oily, oxygen, and other exhilarating gasses existing in the effluvia, extracted or set at liberty from the aromatic, antiseptic, and fragrant vegetables employed in the process. Hence is to be attributed also, many of the curative properties of these baths.

Extract from the Charleston Gazette.

Charleston, April 20th, 1826.

At the Anniversary Meeting of the Medicated Vapour Bath Company, held at their dispensary, on the 18th instant, the following Report of the attending physician was read, and ordered to be printed.

Agreeably to the rules and regulations, the physician to the Medicated Vapour Bath Dispensary has

the pleasure of submitting to the associates his annual report of the patients who have attended the establishment since they purchased it of Mr. Whitlaw : and in discharging this duty he deems it incumbent, at the request of several members, to discuss, and, if possible, to obviate some objections which have been considerably agitated since these baths have been introduced to the notice of the public in this country. A strong, but wholly unfounded prejudice exists in the opinions of many highly respected persons in the community, and even among respectable physicians, that the use of the baths debilitates, and that after a bath there is increased danger of “ catching cold,” if it be taken in cold or unpleasant weather. Such is not the case. Facts are of more consequence than deductions from established principles : in proving the correctness of his assertions, he will, therefore, appeal to the results of experience, that “ the use of the vapour-bath is, in reality, a tonic, and fortifies the system against cold.”

Heat and cold are relative terms, and, by themselves considered, are neither strengthening nor debilitating, but are only so, mainly, as a consequence of certain states of the human system at the time of their application. Heat and moisture united have been long known to the intelligent physicians among the most valuable means of cure in certain cases ; and wherever they have been most accurately known, they have been most highly appreciated—and in no way can they be so effectually administered as by vapour-baths.

Pure morals have been invariably connected with cleanliness ; we would, therefore, claim for this bath the merit of having, in this respect, a friendly influence upon society. Its immediate effects are, a pleasant sensation of comfort, and an agreeable warmth upon the whole body ; the skin seems extended, and becomes softened : the dry and useless scarfskin soon becomes detached from its whole sur-

face, and then follows a strong inclination to sleep. After the bath the person feels recruited and refreshed, his spirits are more buoyant, he experiences an agility and flexibleness of muscle to which he was before a stranger, and, in general, all the functions of the system are in healthy exercise, with more ease, and certainly with greater strength and energy. Although the income from the bath in this city is trifling to all concerned, yet it has fully answered the humane intentions of the associates. Its institution and the results of its application, in relieving pain and distress, must be peculiarly gratifying and satisfactory, when it is seen that of 681 patients, who for various ills resorted to the dispensary in less than fifty weeks, ending with the 1st instant; 468 were cured, 186 greatly relieved, and only 27 received no relief; many of the last having tried not more than one or two baths, and a number of those relieved are still patients of the dispensary. Many of the patients used other remedies in conjunction with the baths.

The diseases on which the medicated vapour-bath has been administered during the last year are as follow :—

Influenza and Cold	211
Rheumatism	156
Cutaneous Diseases	55
Pulmonic ditto	43
Dropsies	19
Diseased Liver	15
Asthma	13
Debility	13
Scrofula	13
Fever and Ague	12
Sore Throat	11
Bilious Fever	9
Suppressio Mensium	8
Gout	7
Old Ulcers	7

Swelled Face	7
Tooth Ache	7
Leucorrhœa	6
Inflam. Tumours and Biles	6
Palsy	6
Country Fever	5
St. Vitus's Dance	5
St. Anthony's Fire	5
Dyspepsia, or Indigestion	4
Spitting of Blood	4
Syphilis	4
Hæmorrhoids	4
Giddiness, or Vertigo	3
Bilious Cholic	3
Inflammation of the Eyes	3
Scurvy	3
Chronic Diarrhœa	3
Burns and Scalds	2
Pimpled Face	2
Pain in the Stomach	2
Dysentery	2
Cholera Morbus	2
Fits	2
Stricture of the Urethra	2
Hysterics	2
Stiff Neck	2
Sore Lips	2
Sciatica	2
Diseased Spine	2
Ear Ache	2
Gravel	1
Nettle Rash	1
Organic Affections of the Heart .	1
Pleurisy	1
Jaundice	1
Total of Fifty Diseases	681

Recapitulation.

Cured 468—Relieved 186—No relief 27—Total 681.

The following Letter from Dr. Hamilton, President of the Hunterian Society, to James Millar, Esq., as expressive of that Gentleman's opinion of the Vapour-Bath, and as confirming the opinion of the Medical Profession in America.

Artillery Place; March 7th, 1826.

Dear Sir,

As the Gentlemen composing the Committee united to assist Mr. Whitlaw in his endeavours to cure or relieve the miserable objects afflicted with scrofula, are desirous of receiving my opinion of that gentleman's practice, I can state, that I have seen several persons with numerous scars of ulcers, who had been cured by his means. I have likewise known others labouring under that dreadful malady whilst under his care, and have marked in them a progressive amendment.

With regard to the vapour-bath employed by him, I can speak more decidedly of its producing the greatest good in many complaints; and the more it is used I am convinced the more extensive will be the benefits resulting from it. I have ordered several of my patients to use it, and have witnessed its excellent effects in some desperate cases.

I beg you to present my best respects to the gentlemen of the Committee, and to thank them for the good opinion they have been pleased to express of me.

I am, with great regard, dear Sir,

Your's most faithfully,

JAMES HAMILTON.

To James Millar, Esq.

For four years previous to Dr. Hamilton's death, I had many opportunities of consulting with him, and learning his opinion upon the various inveterate disorders we witnessed from time to time.

Sensible that persons, when once afflicted with a disorder in the mucous membrane of the trachea or windpipe, the epiglottis and lungs, could not obtain relief from the ordinary means resorted to by the faculty, he placed a number of his patients with that disorder under my care, and had the satisfaction of proving that the complaint yielded to my treatment; whereas, he had not known it to have been cured by any body else. Although the disorder is frequently confounded with croup, he considered it a very unmanageable and a different disease. He stated, that forty years ago few cases of that nature were to be met with, but that within the last fifteen years, in malignity and degree, they had increased to an alarming extent. Formerly, the complaint was confined to the aged and infirm; but, latterly, it had made great inroads upon our youth.

As President of the Hunterian Society, he had many opportunities of hearing the subject discussed among the Members, but could not, from all he heard, come to any conclusion as to the real cause of the disorder: for few gentlemen were of the same opinion. That which appeared the most general was, that it arose from the gas now so commonly used. Those who differed gave no other express reason for their dissent, than that they conceived the disease existed previous to the gas-lights being introduced. He informed me that only one of his medical friends attempted to cure it, after it was fully established. That individual's mode of treatment consisted in touching the epiglottis with a solution of lunar caustic. Dr. H. considered it only a palliative, and neither he nor his medical friends had ever known a cure to be performed. I have since watched the progress of a number of cases, that were treated by the individual in question, but have not known one person to recover.

A few days before the Doctor died, I received a message by the servant, requesting I would go and

see him. I immediately went; and, on entering the room, he expressed himself very glad to see me; and, to use his own words as near as possible, he added, “I have, like Jacob, been wrestling all night with God in prayer, in behalf of my beloved country, and feel anxious, since I think I have few hours to live, to give my dying charge to you.” He thought I should, no doubt, be surprised that he, as President of the largest medical society in the world, should select me out of his friends, to commit his dying thoughts to; but the number of diseases that had taken place for the last ten years, without any satisfactory reason, principally led him to take such a step, independent of the success that had attended my practice in cases of liver complaints, dyspepsia, acute inflammation, scrofula and glandular diseases, and the mutual opinion which was entertained by us, that the disease in the epiglottis or windpipe and the lungs, was produced from frequent attacks of visceral inflammation, combined with the first mentioned disorders. The mere declaration of such an opinion by me, would probably have availed little, had not the Doctor been, previous to his illness, an ocular witness to the various properties of the vegetables that I used in my new system, and their peculiar adaptation to cure visceral inflammation. As the manner in which their powers are held in suspension by compressed steam, and cooled down to a temperature fit to be inhaled into the lungs, and carried into the circulation, was new, interesting, and, in his opinion, of all modern discoveries in medicine, the most valuable for curing inflammation that he had ever seen, he did not hesitate to pass a very high encomium upon it in general terms. Much more might be added, but I will return to the object I have in view, that is, to state the principal reason of my being called upon to attend him, when dissolution was so nigh at hand. The Doctor had, in common with the faculty, seen with regret the vast yearly disproportionate number of

deaths from consumption in the bills of mortality, and would readily have remedied the evil had he known the *cause*. It was this that engrossed his attention at the time of our interview; and a desire that I would endeavour to discover the cause, made him exact from me a promise that I would use my utmost endeavours, and, if successful, would make it known to the public, not through the medium of the press, but, agreeably with his wishes, by getting a Committee of the House of Commons to make the subject known, by some that would excite public attention, to that which not only involved the great mass of the people, but their princes and rulers, into one common fatal physical calamity. This is the expedient to which he recommended me to resort; and it will appear evident that it is the best calculated to accomplish the end in view. This important charge, which was delivered with as much earnestness and clearness as if he had been in perfect health, was followed by an earnest prayer to God that my endeavours might be crowned with success, and concluded with his parting blessing. It was truly gratifying to see that most eminent philanthropist and patriot, devoting the last energies of his mind in behalf of his beloved country.

I lost no time, but immediately commenced my researches. I made many inquiries in regard to the effects of the gas, and found nothing in it to lead me to think that it is sufficiently pernicious to produce the disorder: besides, it is well known, that many men employed in the gas-works, who had the disorder, have been benefited by it: but it is not necessary for me to confine myself to what passes in the metropolis,—for the country, where gas is not used, is not by any means free from the disorder: on the contrary, they are nearly in equal proportion; and I can safely say, that those from the country have proved the most severe. With such facts before me, I could not but consider the cause arose

from the same source, and therefore concluded it to originate from the fat of butchers' meat, butter, cheese and milk,—the produce of cattle fed on most of the low pastures in England, which abound with poisonous weeds, highly destructive to life. I believe that in no country the inhabitants suffer so much from poisonous food and medicine as Englishmen do. The poison may be found in the articles of food above named, which produce visceral inflammation and indigestion, with all their awful train of attendants; and mercury and other corrosive poisons, that are used as antidotes, aggravate the disorder; for an acid stomach will heighten the effects of calomel and blue pill to a corrosive poison, and of course ulcerate the intestines, disease the blood-vessels, bones and brain.

I do not pretend to say that these disorders may not be caused by other substances; but I do assert, that the general use of mercury and such food are the sources of England's woes, and should, therefore, have the immediate attention of the landlord and farmer, whose duty and interest it is to remove these secondary causes, which are within their control,—as I will endeavour to shew in my remarks upon the best method of cultivating the land.

I will here give the opinions of a number of authors of the first celebrity, who, like me, have pointed out the pernicious properties of the plants that cover the pasture fields of this country; and point out a few of the most poisonous, that the public may more readily guard against them.

Dr. Biglow, of Boston, America, in his *Medical Botany*, observes, “ Since the time of Discoridus, the acrid and stimulating properties of the *Ranunculi* have been well known. This acrimony resides in all the species with the exception of *R. auricomus*, which is said to be mild, and perhaps two or three others. It is so powerful that it speedily inflames or corrodes the lips and tongue, if kept in contact with them. In the nostrils it acts as a vio-

lent sternutatory ; and if swallowed in considerable quantity, it brings on great pain, heat, and inflammation of the stomach ; and has even occasioned convulsions and death.

“ Before the introduction of cantharides, as a vesicatory, different species of *Ranunculus* were used upon the skin, as external stimulants. Their power of occasioning erosion and ulceration appears to have been known to the ancients. Different medical writers have given accounts of their mode of operation ; but the most extensive history and investigation is that of Krapf, published at Vienna, 1766. This work, which I have not seen, is quoted, in all its principal facts, by Professor Murray, of Göttingen, in the *Apparatus Medicaminum*. According to this author, the various species with which his experiments were made, proved capable of exciting inflammation, blistering and ulceration, when applied to the skin. A slice of the fresh root of *R. bulbosus*, placed in contact with the inside of the finger, brought on a sense of burning in two minutes. When taken off, the skin was found without redness, and the sense of heat and itching ceased. In two hours, however, it returned again, and in ten hours a full serous blister was raised. This was followed by an ulcer of bad character, and difficult to heal. He remarks, that if the application is continued after the first itching, the pain and subsequent erosion is much greater.

“ From the accounts given of this species, also of *R. sceleratus*, *R. acris*, and some others, it appears that the leaves, flowers, buds, or roots of these plants, if bruised and applied to the skin, excite redness and vesication. This effect is not constant, but fails to take place in certain constitutions, or at certain seasons of the year. Generally, however, they are said to operate in half an hour, or less, from the time of their application. They are stated to possess the advantage over blisters made by flies, that they never occasion symptoms of strangury.

“ With a view to their external stimulus, they have

been used advantageously in rheumatism, the hip disease, hemicrania, and fixed pains of various descriptions. Among the old practitioners, who have recorded instances of their effects, are Baglivi, Storck, and Sennertius. A curious practice at one time prevailed in several countries in Europe, of applying the *Ranunculus* to the wrists or fingers, for the cure of intermittent fever. This is mentioned by Van Swieten, Tissot, and some others. In hemicrania it was applied to the head, and in this case it did not produce a discharge, nor break the skin; but occasioned tumefaction of the hairy scalp.

“An objection against the use of *Ranunculi*, as external stimulants, exists in the uncertainty of their operation, and the violent effects which sometimes have followed after they had been applied. Those writers who have witnessed their application, record instances in which these vegetable blisters have been followed by deep, ill-conditioned, and sloughing ulcers, which were not healed without great difficulty. Tissot mentions an instance, in which an application made to the thumb caused a deep, painful ulcer, which penetrated to the bone, and occupied some months in its cure. In another case, the blister spread, in a few hours, over the whole arm, occasioning fever and delirium, and was followed with such a tendency to gangrene, that the limb was with difficulty saved. Chesnan, quoted by Murray, advises that the *Ranunculus* should be applied to a small surface only, and through a perforation in an adhesive plaister, to prevent it from spreading. From want of this caution he had known inflammation to arise, and spread over a greater part of the face, neck and breast. Linnæus, in his *Flora Suecica*, relates that beggars in Sweden were known to excite ulcerations of their feet with the *Ranunculus sceleratus*, to assist them in extorting charity from passengers.

“The burning sensation which the *Ranunculi* excites in the mouth when chewed, extends to the

stomach if they are swallowed. Krapf states that a small portion of a leaf or flower of *R. sceleratus*, or two drops of the juice, excited acute pain in the stomach, and a sense of inflammation in the throat. He gave a large quantity of the juice to a dog, which brought on vomiting and great distress; and the animal being killed, was found with the stomach inflamed and contracted, and the pylorus hardly pervious. The same author informs us that dilution greatly diminishes the power of this fluid, so that half a drachm of the juice, in six ounces of water, may be taken with entire safety."

Dr. Witherington, as quoted by Dr. Pulteney, in the *Linnæan Transactions*, asserts, "that the distilled water of *Ranunculus flammula* is an emetic more instantaneous and less offensive than sulphate of zinc. I know not in what publication of Dr. W. this statement is made, but the fact appears to me not improbable. Acrid substances, such as mustard, pepper and horse-raddish, if swallowed in large quantities, excite the stomach to relieve itself by vomiting. An objection, however, exists against the distilled water, owing to the uncertainty of its strength; which must vary in proportion to the quantity of the plant employed, the time occupied in distillation, and the subsequent time for which the fluid is kept."

Curtis, in his *Flora Londinensis*, when treating of the *Ranunculus*, says, "Instinct rarely fails in directing graminivorous animals to reject such herbs as would prove injurious to them: hence we seldom find this and the other acrid species of crow-foot eaten by cattle; but we know that under certain circumstances they will err, and become poisoned or diseased. Gerard says, 'This plant is called *Bane-wort* by some, because it is dangerous and deadly for sheepe, and that if they feede of the same, it inflameth their livers, fretteth and blistereth their entrailes.' Dodonæus, from whom Gerard probably borrows this account, reports the same; and

that the plant takes its name in the Netherlands from its pernicious effects on this harmless and useful race. Haller quotes an author (*Le Noble Lact*, p. 12), who says, that the livers of horses which had fed on this *Ranunculus* became rotten, and full of little bladders of water, as well as small animals resembling flounders. If the rot in sheep be occasioned by their feeding on any particular plant, and authors be not mistaken in what they say of this, none appears more likely to occasion it than the present one. Kine are said to feed on it without injury. Cattle in general will not eat it; yet sometimes, when they are turned hungry into a new field of grass, or have but a small spot to range in, they will feed on it; and hence their mouths, as we have been credibly informed, have become sore and blistered. When made into hay it loses its acrid property, but is too stalky and hard to afford good nourishment. It should seem, therefore, to be the interest of the farmer as much as possible to root out this species from his meadows, that its place may be supplied with good sweet grass."

The following experiments upon this poisonous plant, were made by the celebrated Orfila, Professor of chemistry and natural philosophy in Paris. First, he states he took, "five ounces of the juice of the *Ranunculus*, prepared by triturating the leaves with two ounces of water, were introduced into the stomach of a small robust dog. The *œsophagus* was then tied. An hour afterwards the animal made efforts to vomit, and moaned. He died at the end of twelve hours, and had exhibited no other phenomenon than a state of great dejection and insensibility. The mucous membrane of the stomach presented here and there patches of a lively red; the other portions of the digestive canal were in the natural state; the lungs contained a great quantity of fluid blood, and exhibited several patches which were livid, and of a dense texture.--Experiment 2nd. At

eight in the morning, two drachms of a watery extract of the same plant, prepared by decoction, were applied to the cellular texture of the inside of the thigh of a strong dog. In the course of the day the animal experienced nothing but dejection. He died at ten at night. The limb operated on was tumefied, infiltrated, and very much inflamed; the inflammation extended to the muscles of the abdomen; the heart contained coagulated blood; the lungs were reddish, and distended with blood; the digestive canal was not affected with any sensible injury.

“This species of *Ranunculus*, when applied to the temples, has produced pains, an intolerable heat, and fainting; when applied to the joints, it has stiffened them; it has almost always occasioned ulcers and other disagreeable symptoms.

Ranunculus Sceleratus.—Plenck relates, “that the juice of this plant, administered to a dog, produced anxiety, vomitings, contortions and great restlessness: these symptoms were succeeded by a speedy death. The interior of the stomach was red and corroded in some parts; the pylorus was tumefied, and of a livid red.”

Krapf has made experiments on himself and on dogs, in order to assure himself of the effects of this species of *Ranunculus*. “First, he experienced severe pains and convulsive movements in the interior of the abdomen, in consequence of having swallowed a single flower, which he had well pounded. Second: two drops of the expressed juice of this plant occasioned, besides the abovementioned symptoms, a burning and convulsive pain throughout the whole of the œsophagus. Third: in another experiment he chewed the thickest and succulent leaves of this species of the *Ranunculus*: his mouth was filled with saliva; the tongue became inflamed and excoriated; the nipples of his breast were elevated, of a bright red colour, and chapped at the extremity: he could no longer distinguish tastes; his teeth,

which were set on edge, experienced from time to time shooting pains; the gums were very red, and bled on the slightest touch."

Ranunculus Flammula.—Murray asserts, that "a woman had a gangrene of the arm, in consequence of having applied this plant close to the wrist: it made such havoc, that the tendons and bone were laid bare."—*App. Medicaminum*. Vol. III. p. 87.

"It is well known," continues Orfila, "that whole flocks have perished from grazing, in the spring, in pastures where this plant was common."

"The *Ranunculus Bulbosa*, *Ficaria*, *Thora*, *Arvenses*, *Polyanthemas*, *Illyricus*, *Gramineus*, *Asiaticus*, *Aquatilis*, *Platanifolius*, *Breynius*, and *Sardonius*, are equally poisonous."

"We are of opinion, that, from the foregoing facts, it may be concluded,—

"1st. That these different species of *Ranunculus* and their extracts, produce a severe inflammation of the texture to which they are applied :

"2nd. That the death arising from them is the consequence of their sympathetic action on the nervous system :

"3rd. That they do not appear to us to be absorbed."

Tragus says, "that a bit of this tuberous root put to teeth that aches, or into a hollow tooth, will remove the pain." Some authors say, that it breaks those that are hollow, or causes them to fall out.

William Salmon, Physician to Queen Anne, in his *Family Herbal*, when pointing out the effects of the Crowfoot or buttercup, observes, "they may be applied externally, but none of them should be used inwardly, being but little better than *poison*, by reason of their ulcerating property; more especially the *Illyrion Crowfoot*, which some call *Apium Silvestre*, and some *Apium Rifus*, of which we speak in its proper place. But as to this Illyrium or laughing Crowfoot, if it is taken inwardly, it is said to cause

the person to see divers strange sights, and to kill them laughing: without doubt it hurts the senses and understanding, and rather causes cramps, convulsions and wringings, or drawings of the mouth and jaws awry, seeming to the standers by as if the patient laughed; and dying in this condition, to die laughing: whereas it was not laughing; nor was the party in any condition to laugh; but, rather, it was a violent convulsion of the nerves, causing the man or woman to die with great torment."

After quoting the preceding conclusive testimony of those learned authors, I will now direct the attention of the reader to what I have observed, as to the dreadful effects of the *Ranunculus* or butter-cup; and I trust my remarks will be found important, and produce conviction. In the year 1808, when travelling through the western part of the state of New York, particularly on the flats along the banks of the Genesee river, I met with a number of cases of reputed cancer. The Indians were very successful in curing the disorder. After many fruitless efforts to learn the nature of the remedies they used, a fortunate circumstance at length put me in possession of the secret. A German shoemaker, who had already discovered many of their simples, went to the doctor's wigwam with a lady, who had the disorder in her nose and mouth, the bones of which were in a state of decomposition. As they approached, a woman ran out with a child screaming in her arms, from the effects of a burn. While the doctor and the rest were busily employed in commiserating the distressed child, and dipping it in a neighbouring pool to sooth the pain, the shoemaker observed the pan containing the herbs preparing for the cancer, and took the opportunity to conceal a handful of them in his pocket, which he immediately brought to me. The sample consisted of three different herbs; the quantity of each gave me a tolerably good idea of the proportions, and I instantly

formed a decoction, which I compared with the Indian's remedies. Shortly afterwards I left the Genesee for New Caledonia, a Scotch settlement. Here an opportunity was afforded me to make full trial of my new discovery, in the case of a woman afflicted with a disorder said to be cancer. I have since been enabled to ascertain, in my late tour through the United States, that the disorder in question was occasioned by administering mercury to persons who were subject to acidity or acrimony in their stomachs, which produces a disorder nearly as fatal as cancer. The fore part of her upper jaw, her uvula and palate were destroyed by the disease, which was making rapid progress towards her complete destruction. The operation of the medicine was at first powerfully sedative, and allayed the excruciating torments under which she suffered so effectually, that whenever the pains returned, she had recourse to the medicine. The rapid progress she made toward recovery was astonishing, and she was finally cured. This case so established the character of the remedy, that its reputation soon brought around me many similar cases from the neighbouring country.

Neither the great number of cases of the same description that I saw in America in 1825, those I have had in England, nor any medical work that I have read, has furnished me with the real cause of the disorder. Upwards of fifty medical men have been questioned upon the subject by me, but not one could give a satisfactory answer to my inquiries. One distinguished professor calls it a mercurial disease; another says it is pseudosyphilis. An eminent surgeon in Suffolk having failed in his attempts, both among his London and country brethren in the profession, to ascertain the cause, consulted me last summer, with the view of relieving several patients he had under his care at that time, whom he knew were virtuous and had never been affected with

syphilis. They had, previous to applying to him, been troubled with indigestion, and obtained at the dispensary, for eighteen days, calomel and blue-pill, which considerably relieved them; but about two months afterwards they came to consult him with the bones of their noses in a state of decomposition, and their uvula and palate much injured or totally destroyed. Others were affected with phagedenic disease. I was happy to be enabled to inform him, that the real cause of the complaint might easily be ascertained; for the country round Beccles, particularly the extensive flats running from Yarmouth, inland, although affording rich pastures, abound with pernicious weeds -- the butter-cup in particular. There I found the sheep much diseased, and the worst butter I ever tasted; and the natural consequences of eating the latter article and the fat of the former would be, to produce bilious attacks and acrid stomachs; and to administer calomel or blue-pill when the stomach was in such a state, would not fail to convert the mercury into the most fatal poison; -- in its effects resembling the corrosive sublimate, which is well known to be the most active poison in the world for corroding the bones. What a melancholy reflexion is that, of considering, that the most virtuous part of the community is not only disfigured, in consequence of eating those articles of food and taking that destructive drug, but is likewise put on a par with the most profligate and licentious. The lectures of one of our celebrated professors, which appeared in the *Lancet*, plainly shew, that the author of them is not able to distinguish a mercurial from a syphilitic disease, as may be plainly inferred from the circumstance of one of his patients (whom he thought was a confirmed syphilitic subject), being so weak that a course of mercury could not be risked upon him, he directed him to go to the country and live on a milk diet until his strength was sufficiently recruited to undergo the intended

course. The patient acted upon the recommendation, and derived so much benefit, that in a short time he returned quite well. The professor informed his class, that nothing short of confession on the part of the patient would be a guide, and even then they might be deceived. So confounded and disappointed was he, that he did not know in what way to extricate himself. Thus, we find, that within the last fifty years, a vast number of individuals, in England and America, where the doctrines of Brown and Cullen have been adhered to by a great many of the medical practitioners, the patients have been woefully diseased and disfigured.

I cannot omit giving the opinion of Mr. John Lizars of Edinburgh, author of the best set of anatomical plates ever published. His extensive experience, and the observations he made on the diseased organs of the bodies he dissected, led him to inquire into the causes that produced dissolution, and to direct his attention to the medical treatment which gave rise to the phenomenon presented to his view. In his preface to part the fourth he observes, “ If there be a fault in general education, it is the sending out from our universities mere speculative men.”—After pointing out the most proper branches of study, as also the best mode of examination requisite to obtain a surgical diploma, he adds, “ A mode of examination I may remark, truly worthy of imitation by all medical and surgical colleges, particularly the College of Surgeons at this place, where the school of surgery is so sunk in the opinion of the public: the system of medicine and surgery which is established in any country has a greater influence over the lives of its inhabitants, than the epidemic diseases produced by its climate, or the decisions of its government concerning peace and war. The devastations of the yellow fever, will bear no comparison with the ravages committed by the Brunonian system: and the slaughter of the

field of Waterloo counts not of victims, a tithe of the number of which the Cullenian doctrine of debility can justly boast."

In January, 1825, a surgeon in New York, who was formerly in the hospital, had many opportunities of witnessing, as well as Lizars, the various phenomena on dissection, which occasioned the dissolution of the patient. His observations were of twenty years standing; and although he had noticed that latterly the state of the nerves were much more diseased than formerly, neither he nor his brethren could account for the difference. He appealed to me. I told him I had turned my attention to the subject, and ascribed the causes to a bad system of agriculture, and from the erroneous views, theory and practice of physic of Brown and Cullen being so universally acted upon in America. He fully agreed with me; and I was pleased to find, upon looking over Lizar's observations on anatomy, that he gave currency to the same opinions that I vouched to Dr. Mitchell, in consequence of this person's lecture in defence of the theory and practice of Brown and Cullen. As I consider the conversion of Dr. Mitchell to the belief of the humoral pathology of considerable importance, I will annex his remarks in its favor and my answer, both taken from No. 65 of the *Technical Repository*.

" On the ill Effects of the Manures of large cities on the Qualities of Plants.

" Among the fertilizers of the soil, high importance is attached, and deservedly, to that mass of matter which results from the process of putrefaction upon organic substances undergoing corruption after death. By reason of its efficacy, it is assiduously procured to fertilize poor soils, to renovate exhausted ones, and prevent good ones from wearing out.

“ *Animal manures have a peculiar rankness ; some of them stimulate, or, it may almost be said, cauterize with vehemence. Hence they require admixture of milder materials to mitigate their force. Yet, after this offal and scrapings of large cities have been mingled with soil in such proportion as not to destroy the life of plants, but to promote their vegetation, they have been considered as communicating, in many cases, a disgusting or offensive quality to some of the vegetables they nourish. They have been charged with imparting a biting and acrimonious taste to radishes and turnips. Cabbages are less sapid and delicate. Potatoes have been observed to borrow the foul taint of the ground. Millers observe a strong and disagreeable odour in the meal of wheat that grew upon land highly charged with rotten recrements of cities ; the like deterioration of quality has been remarked in tobacco raised in cow-pens. And stable dung has been accused of imparting a disagreeable flavour to asparagus.*

“ It seems as if some portion of the foul matter of the manure was absorbed by the vegetable radicles ; and, after passing unassimilated through the sap-vessels, was communicated by the process of nutrition to living substances.

“ This condition of the vegetable species seems to receive illustration from analogies in the animal kingdom. *Ducks* are rendered so *ill-tasted*, from stuffing down *garbage at the kitchen door*, as sometimes to be offensive, when brought as food to the table. The quality of pork is acknowledged to be modified by the food of the swine. The bitterness of partridges has been ascribed to the buds upon which they live ; and the peculiar flavours of piscivorous with fowl, is rationally traced to the fish they devour. Thus a portion of nutrimental matter passes into the living bodies of plants, and animals in certain proportions without having been entirely

subdued or assimilated. It becomes, therefore, a subject of curious and important reflexion.

“ The horticulturist mostly calculates on the *quantity* of his crop. It is, however, a becoming subject of research, that he should likewise attend to the *quality* ; or perhaps the consumer, his customer, may inform him, that an *offended palate*, and *injured health*, will induce a careful provider to seek *uncontaminated articles* for his table ! ”

“ *Remarks on Dr. Mitchell's Observations on the ill Effects of Manures of cities upon the Vegetables grown in their neighbourhood, and the Animals fed thereon.*

“ On perusing the *Edinburgh New Philosophical Journal* for the last month (March, 1827), I was much pleased with an extract from Dr. Mitchell's discourse, at the anniversary of the New York Horticultural Society, in 1826. I have been for many years intimately acquainted with the Doctor, who I believe to be one of the best-hearted men living, and ever ready to retract any erroneous opinions which the prejudices of his education might have imprinted on his mind.

“ He was a firm believer in, and a zealous advocate for the Brunonian and Cullenian systems of medicine, and of course an unbeliever in the doctrines of the humoral pathology. The only dispute I ever had with my much-respected friend, was in the year 1825, on that very subject.

“ Having, for upwards of twenty years, been studying the vegetable productions of the earth, and the specific action on animal bodies, I am surprised at witnessing the great changes that took place from the use of improper food and medicine, on the constitution. My opportunities for observation have

been pretty extensive, having attended upwards of twelve thousand patients in England and America, who had been treated on the Brunonian and Cullenian systems; and seeing the great debility and devastation produced from these systems, I turned my attention to discover a substitute for bleeding in inflammation in general, but especially in acute inflammation; and have happily succeeded by the use of my vegetable vapour-bath, as it has never failed in curing acute inflammation, when timely administered, and properly medicated: and by attention, likewise, to appropriate diet, my patients have been generally relieved without the use of the lancet; and that too in a short time. Seeing the great advantage resulting from the use of the bath, together with the alterative medicines, diet and exercise, over the depleting, debilitating and stimulating systems, I consequently became a staunch believer in the doctrine of the humoral pathology. I stated my views on this subject to Dr. Mitchell, and gave it as my opinion, that the adoption of the Brunonian and Cullenian systems had produced more victims, and caused more misery to mankind, than all the wars, famines and pestilential scourges that have occurred in Europe and America since their days: and that the views entertained by the ancients, respecting the humoral pathology, were correct, notwithstanding that Cullen and Brown had ventured to condemn them. Believing, as he then did, that the humoral pathology was entirely exploded, or supported only by a few individuals; I am surprised that his opinion should now have changed so far, as respects vegetables imbibing the noxious qualities of certain manures, and also that some animals partake of the noxious properties of the particular food made use of by them; he therefore advises the horticulturist to study the quality as well as the quantity of the vegetables he raises; or, perhaps, the consumer, his customer, may inform him, that an offended palate, and injured

health, will induce a careful provider to seek uncontaminated articles for his table. What a candid acknowledgment! And why is this doctrine not acted upon in America, as well as in England, and universally proclaimed by medical men in both countries.

“ Twelve years ago I delivered lectures on botany in most of the cities of the United States, and for the last six years in London also, where I have laboured with the most unwearied zeal to point out to agriculturists the evil effects of the corrupted soil arising from improper manure, in producing diseased crops, and, consequently, diseasing animals and man fed upon them likewise. I have urged my belief, that even the most wholesome vegetables are changed by such rank manures, as to cause many diseases. And what a melancholy spectacle it is to see the surface of the fields, for twenty miles round London, covered with plants that are highly destructive to health and life! But these opinions of mine have been hitherto mostly treated with contempt by the faculty. The late Dr. Mason Good in his work, *On the Study of Medicine*, makes the following query: ‘ How,’ says he, ‘ are we to account for the fearful host of disease that is overwhelming us like a flood?’ This question I could easily answer; but had it been asked, how any one born and brought up in London within the last thirty years, could enjoy good health, and a sound constitution, I should indeed be at a loss to reply. I hope the horticulturists and agriculturists in America will profit by the Doctor’s advice, and prevent not only noxious but likewise wholesome vegetables from imbibing poisonous qualities, corrupted by rank manures, and more particularly as the heat of that climate renders poisonous plants much more active there than in England; otherwise they will soon exceed us in respect to diseases, at least in dyspepsia, with its long train of awful attendants.

“ The nobility and gentry of this country might advantageously employ a million at least of additional labourers in clearing their wide domains of noxious plants, and which would amply repay them in the superior quality of their produce. They would then feel the truth of that axiom in philosophy, that he who can contrive to make two blades of grass, or wholesome grain, grow where one poisonous plant grew before, is a greater benefactor to the human race than all the conquerors or heroes who have ever lived. And under such judicious management, the British Empire is capable of maintaining in affluence and independence, at least one third more of population than at present exists therein, and a great portion of whom are living in a state of misery and dependence.”

From the above observations of Dr. Mitchell, on the pernicious effects of plants, passing unassimilated into the system of animals and men, the friends of humanity will hail with pleasure the return of that distinguished Professor to sound principles again: I sincerely hope he may have many followers. I will conclude my remarks on the properties of the *Ranunculus* or butter-cup, by stating some experiments made in 1817, by a number of young medical gentlemen who attended my botanical lectures, in order to ascertain the specific action of a number of plants, belonging to the acrid and corrosive poisons. Various trials were not only made on dogs and cats, both internally and externally, but three of the students made several upon themselves. The first individual was young, had flaxen hair, blue eyes, had lived principally on vegetables, and was of an acid temperament of body. He applied a plaister made from the butter-cup to the fleshy part of one of his arms. In a short time the part was slightly inflamed, but the skin was not broken: these symptoms did not last long. The second person was very healthy, and had lived upon a proper mixture of vegetable

food. He applied the butter-cup plaister about the same time in the evening as the other individual. In the morning, fine blisters were raised, and when discharged, washed and dressed, they healed as well as those drawn by cantharides. The third person lived chiefly on butcher's meat, and was particularly fond of fat and butter. He had dark hair, grey eyes, and a bilious appearance. He applied, upon going to bed, a plaister from the same mass as the other two to his leg, and found in a short time that it had produced the most violent inflammation. He bore the pain for upwards of two hours, when it became so insupportable that he took it off, and found the following morning that a blister had been raised, had broken and discharged. The humour had corroded the skin as far as the plaister and ichor had extended, and a large ulcer followed. This we could not heal. It corroded the flesh to the bone, and emitted an ichorous foetid discharge resembling cancer. A number of medical men were of opinion that amputation must be resorted to, in order to save his life: there were others of opinion that absorption had taken place, and therefore amputation would be dangerous. The cause of the inflammation was ascribed by the former to the sympathetic action of the poison, and not to absorption. In this dilemma I persuaded the gentleman not to submit to any operation, but recommended him to take the advice of an Indian doctor. To this he assented; and the doctor, upon seeing the case, declared he could cure him, if he would confine himself to a prescribed diet. This was to consist principally of vegetables; and neither salt, spices nor any heating substances were to be eaten. I could not at that time discover the nature of the herbs he employed, but with them he soon brought the ulcer to a healthy state, for it granulated and healed rapidly: thus shewing the importance of a vegetable diet in cancerous cases. About a month afterwards an eruption broke out on

the second case, resembling chicken-pox: the vesicals filled and discharged a matter somewhat resembling small-pox; afterwards forming a crust or scab. During the continuance of the fever, the inflammation had a dark red appearance, and the pustles were of a bluish colour, the largest of which had a tendency to ulcerate; but, by adopting a vegetable diet, and an alterative medicine, they soon disappeared.

I saw a young man, who had been treated for a white swelling in the elbow-joint, and had taken a considerable quantity of calomel. A plaister of the butter-cup was applied to the swelling, which, in a short time, brought on the most active inflammation. I was called to see the patient, after ulceration to a considerable extent had taken place. I found the bones of the arm, from the shoulder-joint to the wrist, in a carious state, the face and eyes much affected, and the patient diseased beyond hope of cure.

In the case of a young lady, afflicted with an indurated gland or swelling in the side of the neck, a small slice of the root of *Ranunculus* was applied to the tumour at night: it drew a blister, which broke before morning; the water corroded the skin as far as it extended; her face and nose became much inflamed and swollen, and the roof of her mouth ulcerated. I prescribed a vegetable diet, alterative medicine, and the vapour-bath, which soon subdued its effects. I could multiply innumerable instances of its effects in my experience.

I will now turn the attention of my readers to the effects of the poppy; and before I give a quotation from Orfila's *Toxicology on Morbid Poison*, I shall preface it by stating, that I fully agree with him in his opinion as to the effect of opium on the human system; and as he makes no remarks as to its effects on cattle, I will add what I have witnessed.

After mentioning numerous experiments he made,

and particular cases that came under his observation, he informs us, that “ M. Nysten published, in 1808, a very interesting work on opium, from which we shall make an extract. This extract contains the conclusions from the facts which precede it, and from a very great number of experiments made by this physiologist.

“ 1st.—The watery extract, obtained with cold water, and which has undergone only one evaporation, is more active than the other preparations of opium, without excepting even the gummy extracts of Cornet, Béaumé, and Rosseau, prepared by repeated evaporations, by long digestion, or by fermentation.”

“ 2nd.—The resinous matter, which is very little soluble, produces the same effects as the watery extract, but in a much stronger dose, and it does not inflame the mucous membrane of the stomach. If this membrane has sometimes been found in a state of phlogosis, after cases of poisoning by opium, this phlogosis has been owing to the spirituous liquors in which the opium has been taken, or to some other irritating substance administered as an antidote.”

“ 3rd.—The *crystallizable essential salt*, improperly called the *narcotic principle*, is still less active than the resin. M. Nysten has taken four grains of it, and experienced only a very slight disposition to sleep.”

“ 4th.—The pellicle, which separates during the evaporation of the extract, is less energetic still than the essential salt.”

“ 5th.—The distilled water of opium, strongly saturated with the aromatic principle, is capable of producing drunkenness and sleep, when taken in a strong dose. M. Nysten has swallowed two ounces of it without any sensible effect.”

“ 6th.—It is sufficient to inject three or four grains of the watery extract of opium into the carotid of a dog, to kill him in the space of a few minutes.”

“ 7th.—It requires a little stronger dose in order to produce the same effect, if injected into the crural or jugular vein. Nearly the same thing happens when the injection has been made into the pleura or peritonæum.”

“ 8th.—The effects of opium are always less speedy and energetic when it is injected into the cellular texture.”

“ 9th.—They take place all the same, when the watery extract has been injected into the bladder; but a great quantity will be necessary to produce death.”

“ 10th.—The application of opium to the brain is not mortal; although it is by acting especially on this organ, that opium, introduced internally, gives rise to dangerous symptoms.”

“ 11th.—Opium does not destroy the contractibility of those muscles with which it may be brought in contact; and the symptoms of poisoning which take place under these circumstances, depend on its absorption and action upon the brain. A heart plunged into a solution of opium, continues to contract there for a very long time.”

“ 12th.—The analogy which has been supposed to exist between the effects of opium and those of wine, is incorrect. Opium, whether in a small or great dose, directs its action to the vital properties; and it is even in this manner that it becomes a powerful sedative: wine, on the contrary, reanimates these properties; and when it even produces a debilitating effect, it is because they have been elevated to too high a degree of energy that they fall into a state of collapse.”

“ 13th.—It is not by acting on the nervous extremities of the stomach that this poison produces death, as has been supposed; for animals, on which the section of the *par vagum* of both sides has been performed, die at the end of two or three hours; and after having experienced intoxication, somnolency,

and convulsions, as we have described.”—*Bulletin de la Société Philomatique* ; Mai, 1808 ; Tome 1. p. 143.

“ It ought to be observed,” to use Orfilas’ own words, “ that M. Nysten, in the foregoing propositions, confines himself to saying, when speaking of the immediate cause of death brought on by opium, that *this medicine is absorbed, that it acts on the brain, and that it constantly directs its action to the vital properties*. But what is this mode of *leison*? Does opium act by stupifying this organ? Or does it begin by exciting it, in order afterwards to produce stupefaction? In other words, is this medicine to be ranked among the narcotics, or amongst those which excite the nervous system? This question, which has been long agitated among physiologists of very considerable merit, is very far from having received any satisfactory solution; this is sufficient to shew how many difficulties it presents; therefore neither do we pretend, in seeking to throw a light upon it, to investigate it thoroughly.”

“ 1st.—Balthasar Louis Tralles, in a treatise entitled *Usus Opii Salubris et Noxius in Morborum Medela*, (in 4to. anno 1754), is the first who regarded opium as a stimulant. Brown has since taken up this opinion, which he has consecrated by these words—*Opium mehercle non sedat*. In fact, many physicians are of opinion at this day, that this medicine is an excitant: it increases, say they, the movements of the heart, and consequently the circulation becomes more rapid,—the arteries beat with greater force,—the pulse is hard and full. Besides, the Turks, who take opium pure and in the form of extract, find in the use of it an oblivion of their calamities: a thousand delicious images, a thousand agreeable visions present themselves to their imagination. They give themselves up to frantic and extravagant actions; roaring fits of laughter,—mad proposals distinguish them: they feel a greater propensity to venereal enjoyments: all their passions,

all their desires are exalted : a warlike ardour animates their minds : they are prepared to brave death without fear,—a valuable resource, which the officers of the Turkish armies know well how to turn to advantage. Frequently too they abandon themselves to violent fits of madness ; they murder or stab all who make the least resistance to them. This state lasts several hours ; then languor and dejection succeed. They become cold, melancholy, sad, stupid, and sleepy. Let us listen to the illustrious traveller Chardin, whilst recounting the effects of a certain drink prepared with the bulb and seeds of the poppy. ‘ There is,’ says he, ‘ a decoction of the head and seeds of the poppy, which they call *conquenar*, for the sale of which there are taverns in every quarter of the town, similar to coffee-houses. It is extremely amusing to visit these houses, and to observe carefully those who resort there for the purpose of drinking it, both before they have taken the dose, before it begins to operate, and while it is operating. On entering the tavern they are dejected, sad, and languishing : soon after they have taken two or three cups of this beverage, they are peevish, and as it were enraged ; every thing displeases them,—they find fault with every thing, and quarrel with one another, but in the course of its operation they make it up again ; and, each one giving himself up to his predominant passion, the lover speaks sweet things to his idol,—another, half asleep, laughs in his sleeve,—a third talks big, and blusters,—a fourth tells ridiculous stories ; in a word, a person would believe himself to be really in a madhouse. A kind of lethargy and stupidity succeed to this unequal and disorderly gaiety ; but the Persians, far from treating it as it deserves, call it an extasy, and maintain that there is something supernatural and divine in this state. As soon as the effect of the decoction diminishes, each one retires to his own house.’ ”

The numerous cases of scirrhus and cancer that

have come under my treatment, from particular inquiries I have made of the patients, have enabled me to point out some of the pernicious effects of opium.

I have not met with a case of fungus hæmatodes or bleeding cancer, nor severe bleeding in common cancer, where opium had not been administered. That medicine never fails to disease the blood-vessels and increase mortification of the parts, in all cases of open cancer; and to use the language of the ancients, it eases pain, not by mitigating it, but by stupefaction:—not by taking away the cause, but by the obstruction of the animal spirits for the time. As far as my observations have extended, I have noticed, that as soon as the sedative powers of the opium is over, an increase of pain is sure to follow, attended with inflammation and mortification: and I do firmly believe that the use of opium ought to be prohibited, unless the vital organs are so impaired as to render the life of the patient hopeless. It may be given to alleviate pain, by such practitioners as have not a better remedy. All who have written upon opium, at least those works which I have seen, say that the article was unknown to Hippocrates. My opinion is, that he too well knew the effects of that destructive drug to administer it: yet there never has been since his day so successful a practitioner as he was, and without using opium. So dangerous and various are its effects, that the subject cannot be too strongly argued, nor quotations multiplied, to decry the existing evil. Among the latter, one from Dr. Cullen's lectures on the *materia medica* is as follows:—"Opium is a medicine of such considerable power, that it may prove deleterious and destroy the system altogether, and therefore always requiring great caution of exhibition. Not only have the ancients disputed whether it was cold or hot, but we are at this moment disputing whether it acts chiefly as a stimulant, or whether in any case it acts directly as a sedative. I shall only mention the

general appearances which occur on the exhibition of opium in a proper dose, avoiding the specialties which may occur from use. The effects are these : first, a frequency of pulse, after which the body is sensibly warmed, generally with a redness and flushing of the countenance. While these effects proceed, a serenity of mind ensues, and a lively imagination, which, when it occurs, is almost constantly of the cheerful and pleasurable kind. To these, in particular persons, often succeed chagrin, irritability and irascibility. By the time that these become remarkable the senses appear imperfect, the imagination false, and directly a delirium takes place and intoxication. The imperfection of the senses proceeds to a total want of sensibility, which ends in stupor and appearance of sleep. After this, the person is awaked, and, if no other stimulus takes place, he is attended with a sense of coldness and weakness. Such is the series of the phenomena, which plainly points out a mixture of stimulants and sedatives.”—One would suppose, from the above statement, shewing the effects of opium, that the article would never have been administered again : but when it is considered that the practitioners of the day have no better substitute in cases of acute inflammation and cancer, the reason for using it is very obvious. I have had many patients afflicted with those disorders, who had been taking from fifty to three hundred drops of laudanum every night, in order to obtain a little sleep or respite from pain. After taking a few baths and proper alterative medicines, they could rest and sleep comfortably, in all the incipient stages of the disorder. I have known many cases of aneurism, varicose veins, and palpitation of the heart, brought on by the use of opium. A lady whom I had as a patient seven years ago, afflicted with nervous irritation and palpitation, had, since being cured, enjoyed a tolerably good state of

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health until she took a small dose of laudanum, in consequence of considerable fatigue of body and mind. It immediately brought on the palpitation, which lasted nearly three days without intermission, and reduced her to such a state of debility as to render her incapable of moving, and placed her life in the most imminent danger. I am no stranger to the effect of poppies on horses. A friend of mine, who sometimes feeds his on green vitches, with almost an equal quantity of poppies, directed my attention to the circumstance that all the animals but one that partook of the latter, were hide-bound and had their hair standing on end; the one excepted was in good condition, and ranks among the best in the kingdom. In consequence of inattention to the food of these animals, they have frequently to be drenched with drugs, and have their legs blistered in order to draw off the poisonous humours from their bodies. I have travelled over a large portion of the globe, but never witnessed a parallel to what I have seen in England: the horses, like the people, with diseased blood-vessels, and the veins of the legs of the former varicose. It is common to see cart-loads of green clover and poppies, and grain and poppies, brought in to feed the milch cows. It is true the cows are not so much affected as the horses, for the poison passes off by the milk vessels, and the milk is regularly served out to the inhabitants of this great city, particularly the children. A portion of green fodder is free from the above plants, and if all fodder were, it would be a fortunate thing for the public, especially for the cooks, who would rejoice at getting the milk free from the poison, as it would prevent many a mishap to their puddings, pies, &c. that contain a portion of the milk from cattle fed on poppies. This may appear strange, and perhaps incredible, but how are we to account for the well-known fact that upon examining the puddings, there

will frequently appear as great a rebellion in their composition and appearance as they often create in the stomachs of those who eat them.

I will next notice the action of the Euphorbia or spurge on the animal economy, by introducing a few experiments made by and taken from Orfila on morbid poison.

“ *Experiment 1st.*—At one o’clock the œsophagus of a very strong dog was detached and perforated: half an ounce of euphorbium finely powdered, and enclosed in a paper cover, was introduced into the stomach. A quarter of an hour after, the animal uttered piercing cries, and made some efforts to vomit. The next morning at seven o’clock he was dejected, and continued to suffer pain. He died at three in the afternoon, without having shewn any other remarkable phenomenon than a great degree of dejection and insensibility.

“ *Dissection.*—The stomach was very bulky; it appeared of a blackish red on the outside. On opening it, it was found to contain a very considerable quantity of a red, bloody fluid, mixed with powder of euphorbium. The three coats of this viscus, and especially the mucous membrane, were black, or at least of a very deep red: the duodenum, jejunum, ilium, were little altered, and covered with a considerable quantity of a brown fluid, which was easily detached: the colon, and more particularly the rectum, were the seat of a remarkable alteration: the mucous membrane of the latter of these intestines was of a fiery red colour in its inferior half, and exhibited three longitudinal bands of two lines in diameter, projecting, of a blackish red colour, and separated by some small ulcers; in its superior half it was black as charcoal, and exhibited likewise some small ulcers. The colon was considerably affected, yet much less than the rectum. The lungs did not appear to have been sensibly injured.

“ *Experiment 2nd.*—At eight in the morning a

wound was made in the interior part of the thigh of a dog of middle size; it was sprinkled over with two drachms of euphorbium finely powdered, and the lips of the wound united by a few stitches. The next day the animal was somewhat dejected, he uttered no plaintive cry, and preserved the use of his senses and of motion. He died at half-past eleven at night. The stomach, the intestinal canal, and lungs, were sound. The limb operated upon was very much inflamed; the redness and sanguineous infiltration extended from the inferior extremity of the bones of the leg, up to the fifth sternal rib. There was no eschar.

“ *Experiment 3rd.*—At eight in the morning eight ounces of the juice proceeding from the fresh leaves of the *euphorbia lathyris*, were introduced into the stomach of a very strong dog of middle size, and the œsophagus was tied. Three quarters of an hour after, the animal made efforts to vomit, and had passed three stools: he suffered only during the day some dejection. The next day at six in the morning, he continued to make efforts to vomit; the dejection was increased, and the animal remained lying upon the belly, without attempting to stir; he nevertheless preserved the power of moving freely. At eleven he began to agitate his feet in a convulsive manner: he died at noon. The next day he was opened.—The lungs were livid, dense, distended with blood; the rectum presented here and there reddish spots: the other portions of the digestive canal were sound.

“ This poison has been sometimes administered, imprudently, as a purgative, and produced vomiting and bloody stools. Applied to the hairs and to warts, it causes them to fall off; which proves that this plant is excessively acrid.

“ *Experiment 4th.*—At seven in the morning, five ounces of the fresh juice of *euphorbia cyparissias* were given to a small robust dog, and the œsophagus was tied. The animal went several times during the day

to stool. The next day he was dejected ; the day following he was still more so, but preserved the free use of his senses and of motion. He died in the night. The rectum exhibited some spots slightly red ; the other organs appeared sound.

“ Scopoli asserts that this last species produced death in a woman, who, half an hour before, had swallowed thirty grains of the root of it. In other circumstances the same author has witnessed gangrene of the abdomen, and death, to succeed quickly to the imprudent application of the *esula* to the abdomen. He moreover makes mention of a person, who having the eye-lids closed, allowed them to be rubbed with the juice of this plant. Inflammation soon after declared itself, and was followed by the loss of the eye.

“ It results from these facts,—first, that euphorbium exerts a local action extremely violent, capable of producing acute inflammation : secondly, that its fatal effects depend rather on the sympathetic irritation of the nervous system, than on its absorption : and thirdly, that it appears to act on the human species as on dogs.”

As to the action of the euphorbia on the animal economy, Linnæus, in his *Materia Medica*, observes, that “ its quality is milky, acrid, and septic ; its power corroding, rubefacient, blistering, ulcerating, stimulant, expelling, drastic, sternutatory.”

I have for many years turned my attention to the effects of the euphorbia, both in Britain and America. It was one of the first objects that attracted my attention in Scotland. After the grain had been got in off the farm that my father managed there, the sheep were frequently turned into the stubble fields, and the consequence of their feeding was, that in twenty-four hours afterwards a number of the young sheep and lambs died. I was then studying botany under a botanist, who had read some of the papers published by Linnæus on the subject. My instructor

could readily discover what was the cause of their death. Upon opening about twenty of them, I found a great quantity of the euphorbia, which had inflamed and ulcerated their stomachs, and caused their death. Many of them that did not die were much swollen, had their bowels relaxed; and although they were removed from the stubble fields, the latter effect continued for some time afterwards, which ultimately made them pine and die. I never lost sight of that destructive family of plants in my travels; and, from the appearance of numerous dissections, I have not the least doubt of its diseasing the blood-vessels, its ulcerating power, and tendency to produce varicose veins, both in animals and men. I might, by enumerating poisonous plants and their effects, swell this work to many volumes: but, to avoid the charge of being prolix, I have selected the ranunculus or butter-cup, papaver or poppy, euphorbia or spurge, owing to their being the most common in the pasture fields of England, and consequently producing more mischief in animals and men than the whole of the rest of the poisonous plants.

Dr. Good has the following striking quotation in reference to the subject under consideration:—

“ Mr. John Hunter was the first physiologist who ascertained the real cause of the mischief before us, and traced it to a general principle which he had laid down, as applicable to all internal cavities,—namely, that when injured or rendered otherwise imperfect, they are often apt to inflame at the injured part, and to have the inflammation spread rapidly over their whole extent, as I have already had an opportunity of observing under peritonitis, puerperal fever, and on various other occasions. He was first led to this view of the cause of veins, from noticing what occasionally happens to horses. It is no uncommon thing for hostlers, out of an unnecessary or ill-judged case, to bleed these animals in the neck, even when in perfect health: and in several instances

of this kind, Mr. Hunter has observed that the neck swelled and the horse died; and on examining the nature of the disease by dissection, he found that the cavity of the vein was inflamed, and that the inflammation had spread along its internal surface to the chest, sometimes even to the heart itself. And he afterwards found a like effect produced in the veins of the human arm, where inflammation had succeeded to bleeding; and particularly in one case that occurred in St. George's Hospital, being that of a man who died suddenly on the eighth day after having been bled in the basilic vein of the right arm, and having suffered from inflammation as a consequence. On dissecting the arm, he found not only that the cavity of the vein had inflamed, but that the inflammation had extended from the puncture which had been made by the lancet in blood-letting, as high as the axilla, proceeding also to some distance below the puncture. About the middle of the arm the vein had suppurated; and, from the ulceration or absorption of parts which attends abscesses, the vein was divided into two; and each extremity, like the internal surface of the abscess, was irregular and jagged. Mr. Hunter was disposed to think that the principal cause which produces the inflammation of a vein after bleeding, is the want of a disposition to heal, arising either from its being exposed, or in consequence of the lips of the orifice in the skin not being properly brought together. And he hence strongly advises that the sides of an opened vein should at all times be made to approximate as accurately as possible, and that the orifice in the skin should be drawn to one side of that in the vein, so as to make the skin do the office of a valve to the venal opening."—*Edin. Med. Comment. Vol. III. p. 430.*

Dr. Good, however, in my opinion, takes a more correct view of the subject, when he attributes it, as in the case of puerperal fever, to some peculiar local

or constitutional irritability, predisposing the injured part to run into an inflammatory action.

I was much pleased to find Mr. Hunter's description of the diseased blood-vessels, and that he first noticed varicose veins in horses, and was the first discoverer of varix, or soft livid tumours in the veins of animals and men. I first observed the complaint myself in horses, and afterwards in the legs of seafaring men. I had given my opinion of the causes before I had seen Mr. Hunter's description of it; and finding the disease was not known before Mr. H. discovered it, it is to me truly astonishing that a complaint so formidable in its nature, so fatal in its tendency, and eating like a gangrene into the vitals of the public, should now be treated with perfect unconcern. Good's pathological view of the subject, although more correct than that of Hunter's, is still deficient, inasmuch as he has not pointed out the cause. This I shall endeavour to do, as far as personal observation has enabled me to judge. When I first observed the complaint in horses, their stomachs were diseased from eating the poisonous plants already described. I found the doctor had been giving them sixty grains of calomel, and the animals, while drinking at the brook, were allowed by the hostler to wade in the water, and their legs immediately swelled and became covered with varicose veins. I have discovered that plants will produce the same disorder, independent of the use of mercury, although not to the same extent.

I might mention upwards of a hundred other plants, that are less injurious in their effects on the animal economy; but as these may be considered secondary in comparison with the above, the landlord and farmer, in destroying the former, would find little difficulty in removing the latter. Every reflecting mind must be aware that no animal can eat the above poisonous plants to any extent, without being diseased; and that

no human being can use either the milk, butter, cheese, or meat—the produce of such animals—without contracting those disorders of body and mind, that it is in the nature of those plants to produce.

I fearlessly assert, and will maintain, that half the surface of the pasture lands, to a great extent round London, are covered with those plants, and that it is not the wet season that is the cause of the disease and mortality among men, horses, cattle and sheep, but the very poison that is imbibed from the plants, whether received directly or indirectly. Wet seasons will, it is true, render poisonous plants more abundant and active, as may be proved from the circumstance that the prevalence of warm weather causes their destructive properties to evaporate, and parching them to a certain extent : for instance, when grass is cut in warm weather, the roots of the plant suffer from the heat, and do not spring up in such abundance in the fall : and the hay that is well cured, unless it be heated in the stack, the farmer says it will disease the horses. This view of the subject is at variance with a good system of agriculture, for if there were nothing but good clover and wholesome grass, the more the juices were preserved the better it would be for the stock. In wet seasons when the grass is cut, the roots do not suffer; they are well established, spring up in great abundance in the fall, and continue in their full vigour during the greater part of the winter. This was the case to a fearful extent last fall. I never saw the various plants so abundant and active in their powers before, and therefore their effects were particularly visible in the live stock. In cases where the grass is cut in wet weather, the rain and the earth draw out the poison from the plants, particularly out of the butter-cup and poppy. The butter and milk are more wholesome this winter, in consequence of the rain that fell during the hay-making season. Were the fields properly fallowed and cleared of every description of poisonous plants,

and sown with clover and the best grasses, wet seasons would not disease the stock. This suggestion, if acted upon, would be attended with the most beneficial effects to the country. It may be asked, whether those poisonous plants did not exist in former ages? Yes, I would reply, they have existed, but not to the same extent. Their effects then were, as a duty, pointed out by the faculty, particularly during the reign of Queen Anne; and is no doubt the reason why none of the plants are to be met with in the downs, common lands and old deer-parks. Another instance in proof of that fact is, that Britain and Ireland were agricultural countries; the great bulk of the inhabitants lived on the soil; the farms were small and the lands were frequently ploughed, which in a great measure destroyed the poisonous plants. The great political question that was agitated between the Earl of Bute and the Earl of Chatham, as to whether the former's measures, in favor of commerce, or that of the latter, in favor of agriculture, should be adopted, and which terminated agreeably to the views of the former, occasioned the inhabitants to abandon the soil and congregate in large cities and villages,—a more correct description of which cannot be found than in Dr. Goldsmith's *Deserted Village*. The consequences of such a policy were soon evident:—the landowners and cultivators converted small into large farms; and instead of raising large quantities of grain, the land was made to produce grass—not aware at the time that they were opening a field for those numerous poisonous plants that were not so abundant in any other country on earth. Subsequently, when the French revolutionary war broke out, a number of the grass fields were ploughed and sowed, in order to obtain the large supply of grain that was required for the army and navy. This circumstance had the good result of destroying the weeds and poisonous plants; but as soon as peace was again enjoyed, a

portion of the fields were laid down into pasture lands with a quantity of poisonous seeds mixed with the grass seed, and generally sowed promiscuously. What grass is left in the fields in the spring and summer months, is choked and destroyed by the great increase of weeds and poisonous plants; and the longer the fields are allowed to remain in the present state, the evil will increase.

A farmer (who has one of his sons under my care, with his bones very much corroded, from eating bad butter and meat, and taking mercury), upon being recommended to plough up his land, in order to destroy the poisonous plants, and obtain good milk and butter, to hasten the cure of his son, and ensure better health to himself and family,—he informed me, that he was bound by the tenor of his lease, under the penalty of fifty pounds an acre, not to plough his fields; and further, that most of the farmers round London were under similar restrictions. Is it surprising, under such a system, that the live stock is diseased, and that we are dependent upon supplies from other countries? arising, principally, from the restricted and arbitrary measures of the land-owners. Instead of them, government should suggest and the legislature enact such laws as would compel the farmer to improve the land by ploughing. If this be not done, I am afraid that few animals will be left to pasture on any land.

Before I treat of various diseases, I will endeavour to convince the land-owners and farmers, that it is not only their duty, but to their interest, to raise an abundance of food both for man and beast. I here again assert, that with proper care, England need not look to other countries for any portion of her corn, possessing, as she does, equal resources, if properly improved. By the abovementioned bad system, agriculture has become a curse, instead of a blessing; for the vice and immorality that are now so prevalent, are occasioned by the stimulating and

corrosive poisons that inflame the passions of our youth; and, notwithstanding the admonitions and restraints of parents, hurry them on to lose their reputation, unhinge their nerves, and ultimately ruin their constitutions. To attempt to reason with them when under the stimulus of these potent poisons, would be as rash as reasoning with a drunkard, a maniac or the wind. I have known many youths who went to schools and colleges in the full enjoyment of health and their reasoning faculties, but many of whom, from their wicked indulgencies, have had their sight and hearing impaired, their hair fall off, with their heads partially bald, and possessed of less good sense than when they went. Some of my readers may think that I have exaggerated, and misrepresented the deplorable state of things as they now exist: but let such as think so, refer to the wisdom of our forefathers, and the able treatises of Mr. Colquhoun on *Indigence* and *Police of London*, published in 1806; since which period the moral state of society has not by any means improved.

In respect to the wisdom of our forefathers, I allude to those who framed some of our laws, it may be justly argued, that in enacting the law which prohibits persons from administering certain acrid substances (such as it would be imprudent to mention in this work), with the view of exciting the passions of females in particular, under the serious conviction of the person committing felony, our forefathers shewed their sense of the consequences of administering corrosive or active medicines, to act more immediately on the affections and passions. If such were the reasons for so severe a law, how much more do we now require some legislative measure to counteract the effects of opium, the buttercup, spurge and the number of acrid poisons that cover the pastures round London, and are indirectly the cause of such mischief, independent of the long list of stimulating and corrosive poisons that are

given under the pretence of alleviating and curing disease!

I stand upon firm ground, and can prove my assertions by the practical demonstrations that I have brought in many instances before the eyes of the public: and the advice which I have given, and has been successfully acted upon, I will now add for the information of those whom it may concern.

Let our land-owners and farmers appropriate the best calculated situations for raising grain, clover and grass-seed of the most improved kind, in order to supply the farmers. These should have their lands well cleaned by cropping, and well prepared for laying them down into pasture. All the manure that is to be put on the land, should, the year previous, be made into compost with lime and other earth, well mixed by turning it over two or three times in summer: by these means all the insects, seeds and roots in the manure and earth will be destroyed by the lime. This plan will ensure a good crop of grain and grass, adequate to the expense of the manure. The land after it is sowed, should be rolled, in order to destroy the slugs and other insects; the hedges and ditches should be cleaned and pared, and the dirt laid in heaps; both the common and rich earths made from the decayed leaves, should be prepared to mix with the manure and lime.

Every landlord ought to build (upon an inclined plane, varying from one to two feet, with an open square in the centre) a spacious and convenient set of barns, stables, cow and fowl-houses, pig-pens and sheds: the size of the square may be regulated according to the extent of the farm: it ought to be levelled, the bottom be laid over with the stiffest clay, well beaten down, and afterwards paved in the same way that the streets are in London, with a gutter on each side to carry off the water from the dung. At each corner of the gutter, at the lower part of the square, a reservoir should be sunk, suffi-

ciently large to contain all the liquor that runs from the dung. A grating should cover each, to prevent any portion of the dung getting into them. To obtain a greater supply of liquor, the compost should be made in the square. During the winter and spring, but more particularly after the grass is cut, the fields should be watered with the liquor, by means of a puncheon on a cart, that may be filled at the reservoir, and the liquor allowed to run over the hay-fields, as the water does over the streets in London. If there be no lime in the manure, some should be put into the reservoirs, to destroy the insects, and take off the cauterising effect of the liquor. The increase of produce will amply repay the extra expenses of such an experiment; and should this not be resorted to, lime water will produce a good effect, both in fertilizing the soil and destroying the insects.

The next important object to be attended to is the pasture-fields: these, as I have before stated, abound in poisonous plants, and therefore it becomes every one, who will not plough their fields, to employ a number of hands to root out the plants: children from ten to fifteen years of age are the best calculated for this purpose. An instrument in the shape of a mason's trowel (but stronger, with three prongs bent like a silver fork) should be used by the weeders: a basket should be carried by each, and a linen or calico glove worn on the left hand, to prevent the buttercup from corroding the flesh. When the weeds are collected in some convenient spot, and are sufficiently dry, they may be burned, and their ashes strewed over the pasture-fields. Before the weeds are dug up, the fields ought to be sown either with white, red or yellow clover, anthoxanthum, sweet vernal grass, rye grass, *agrotis stolinifera* or bent grass, *holcus adoratus* or sweet scented grass, *dactalis* or cock's-foot grass, *festuca Loliacca* or spiked fescue grass, *festuca calamaria* or fescue grass. In the

spring the above clover and grasses will be covered by the earth in digging up the roots, and trodden in with the weeder's feet, so that they will grow readily.

A friend of mine had two fields cleared of buttercups, dandelion, ox-eye, daisy, sorrel, hawk-weed, thistles, mullein and a variety of other poisonous or noxious plants: they were dried, burnt, and their ashes strewed over the fields:—had them sown as above—and found that the crops of hay and pasturage were more than double what they had been before. I was furnished with butter for two successive summers during the months of July and August of 1827. The butter kept for thirty days, and proved, at the end of that time, better than that fresh churned and brought to the Brighton or Margate markets. It would bear salting at that season of the year.

The next object is to plough as much of the foul fields as possible. They should first be cropped until the weeds are entirely destroyed, and then laid down with the best of grass. It is well known that all soils will become diseased by constant cropping, and consequently the crop is liable to be also affected, not only by partaking of the impure qualities of the soil, but by insects. In such cases, where the soil is light, lime, chalk and marl, are the best manure. In clay soils, sand and carbonaceous earths are proper.

The better plan is to deepen the soil by trenching, so that the soil that has been subject to cultivation for seven previous years, should be turned down to rest and recrystallize for seven years, when it would be turned up to undergo its routine of cultivation: the farmer would be enabled to trench one or more fields every year, in order to bring them to their proper routine of cropping. Upon this principle, the people would be living upon provisions raised from virgin earth, which would indeed be a blessing to them, for then there would be few diseases, and the

farmer would contribute to the wealth of this country, whether at home or abroad. Paring and burning are good methods for getting the fields cleared of buttercups, poppies, spurge, and a great many other noxious plants, whose roots do not run deep in the soil. Another advantage is, that burning takes off the ascendent properties of the soil, and makes it more divisible, so that the roots of vegetables will more readily absorb the nutritious particles.

The flavour of all grains, fruits and vegetables, are much improved by being manured with burnt earth and vegetable ashes.

The government ought to build large store-houses for grain, and have stocks laid up in plentiful seasons to meet all the exigencies of government, and more particularly for the supply of the poor in years of scarcity. I have been in the habit of trenching the soil, have calculated the expense, and have generally found the increase of the quality and quantity of the crop would pay all the expense of trenching the first year, unless the soil previous to trenching was very thin ; but it would amply repay the second year, independent of the improvement of the land. There are few persons who reflect but must see the great advantage such a system would present to the nation, by rendering the supply at all times secure. It is well known that the manufactories of this country have been carried to an extent far beyond the demands of this or any other part of the world ; and the great evil is, that the prospect of improving the manufactories is gone by, and times are getting worse and worse.

The best plan to give employ to the children of the manufacturers, would be to set them to work on the soil, and teach them agriculture in all its various branches : also carpenters, blacksmiths, masons, &c. might be engaged in a similar way. Young women also might learn all the circumstances connected with agriculture that fall within their province. We have

means sufficient to employ all the inhabitants in a respectable and independent way; and should it even be necessary to encourage emigration, we could send out the most useful members of society. Canada alone might receive, for many centuries to come, more such settlers than could be well spared, independent of those who might advantageously emigrate to Van Dieman's Land, and North and South America: in fact, we have nothing to fear by making the people moral and industrious members of society. In all my travels I have not seen so much human happiness as that enjoyed by the Co-operative Societies in America—among the Moravians in particular. This arises from those societies having all their concerns entrusted to the management of age and experience—the labour, and duties of the several departments, being voluntarily and cheerfully performed by those who are best calculated to bear them. The stranger who enters the district of country they occupy, perceives at once evident signs of the wisdom, strength and industry of the inhabitants; and from the comforts they enjoy, all strangers, of whatever nation, must come to this conclusion,—that the country and the people were particularly favoured by God, for misery is not to be found there. Were our land-owners to populate their domains with such industry and intelligence, they could soon banish poverty and pauperism from this kingdom: and although commotions and want might exist in Europe,

“ A virtuous populace would rise the while,
And stand a wall of fire around our muchlov'd Isle.”

I will now point out some improvements I have seen, and others I have suggested and put in practice in agriculture: they are well calculated to improve the health and happiness of the people. The result of my experiments and observations upon that science formed the subject of a course of lectures, delivered by me in various cities of America—began

in 1816, and continued for three years. During that period I became acquainted with agriculturists, horticulturists and scientific men from every country in Europe, possessing a knowledge of all the improvements adopted by the nations to which they respectively belonged. The information I received from them was important to me in delivering those lectures, as it enabled me to form more correct ideas of altitude, latitude, soils and climate; and thence deduce the methods of raising stock and the natural productions of the earth. As an evidence of that knowledge, which I acknowledge to be so necessary, I here subjoin an article

On Improvements in Breeding Poultry.

In my travels through the United States of North America and Canada, amongst the various objects that attracted my attention was the rearing of poultry. Different methods are resorted to for increasing the size and improving the quality and flavour of poultry—an article which forms an indispensable portion of food at the tables of all ranks of society in these countries, the population of which consists of a mixture of all nations; so that many improvements from other countries have been introduced, both by the settlers and by the captains of ships who trade to every clime, and are constantly introducing something new to increase the comforts of life. The following method of rearing and feeding poultry, I had from a Captain Dunn. He had received some hints from the Chinese, and had likewise imported all the different kinds of fowls he could get from that and other countries, in order to improve and cross the breed. After many years' experience, he found that the breed produced between the English and the large Malay fowls was the best, taking size and flavour, and their being better suited to the climate, into consideration.

The severities of the winters at New York require the employment of artificial heat, in order that the hens may lay all the winter, and that chickens may be reared all the year through. The houses for this purpose may be built either of brick or stone, one story high, with wooden roofs, and must be heated by cast-iron steam-pipes. Their ceilings and walls must be finished with Roman cement, in order to keep the houses free from vermin, which are apt to generate when heat is employed. Each house is to be divided into four compartments; the first for hatching and rearing chickens, the second for breeding turkies, the third for ducks, and the fourth for geese. A furnace is to be built at one end, with a steam boiler to hold fifty or a hundred gallons of water, which will heat a house eighty feet in length. The first two compartments must have the steam-pipes pass around both rooms, at the bottom of the walls, for hatching chicken and turkey eggs; and they must pass once round the other two rooms, ducks and geese requiring less heat. The boiler must also be so constructed as to steam potatoes, parsnips, carrots and herbs; which, when cooked, and mixed with milk, barley, oats or pease, meal or flour, produce the finest chickens and other poultry.

To make the hens lay all through the winter, mix powdered oyster-shells and slate, or decomposed schistus, with their food. The lime in the oyster-shells is necessary to form the shells of the eggs, and the slate improves the quality and flavour. Those hens are found to lay better flavoured eggs, which are bred on soils formed from decomposed schistus or granite.

By persevering in the above plan, a sufficient quantity of poultry might be obtained to supply London, at one half the prices generally charged, and yet allow a fair profit to the farmers; and an abundant supply of eggs in the winter would always be certain.

Eggs are good for children ; it is obvious, from their nature and use in the nourishment of the fœtus, that they contain a larger proportion of pure nutriment than any other aliment, as they produce little or no fæces.

The finest children I have seen in the United States, were fed mostly upon bread, milk, eggs and poultry. If parents would feed their children in this way, giving them little or no other animal food, they would not be so liable to disease ; nor would contagious disorders be so fatal as they are now, owing to the excessive use of animal food, and particularly of pork.

The above method is more especially adapted to the rearing and feeding of ducks and geese.

There is a species of wild duck in North America, called the canvas-back duck, which lives entirely upon grain, grass and roots : it is very delicious, and far superior in flavour to the common ducks. I have noticed the improved flavour of all wild ducks, when feeding on the wild rice in Canada, which strongly points out the propriety of feeding ducks and geese as above described. It is generally known what filthy feeders those ducks and geese are, which are fed about farm-yards and ponds of stagnant water ; and how rank and unwholesome they are to most people, producing acid stomachs and creating bilious disorders ; whereas, if they were fed as above, they would be the greatest luxury brought to table.

The process of hatching chickens by steam, or heated ovens, does not answer so well, as allowing the fowls to remain with the young broods. Nests must therefore be provided for them to lay and hatch in, and a number of pigeon-holes must be formed below for the young ones to roost in, which must be built of stone or brick, lined with Roman cement, and their sides, bottoms and tops be lined with matting, to keep them warm and dry. In the apartments for ducks and geese, small ponds must be formed,

through which the waste steam may be turned, to keep the water sufficiently warm for the young brood to swim in, as they thrive best in summer-heat and moisture. They also require to have turnips, cabbages, and other vegetable food, in addition to that already mentioned, during the summer season, together with young clover, barley, oats and other green crops, cut when about six inches high, and given to them twice a day. They need but little other food during the summer; and when they are also properly fed in the autumn and through the winter, they will be found inferior to none that come to market.

Milk, as abovementioned, may also be mixed with the food for the poultry with advantage, particularly for ducks and geese. I have no doubt, if this experiment be once tried in this country, that it will be found to answer.

A gentleman who attended my lectures, put the above plan into operation near one of the small lakes, in which he had piles driven so close together that the young ducks and geese could not get through, and of a height sufficient to prevent the old ones flying over them. Within these, two compartments were formed, running a considerable distance into the lake, to give the ducks and geese scope for swimming. In the whole of my travels I did not see so fine nor so numerous a flock. Those he was feeding for the market, were superior in size and flavour to any that I had before met with. He told me the expense of rearing them in this manner was trifling compared with that incurred in the ordinary way. He took care not to let them out until the grain was housed: after this he turned them into the stubble-fields and had them well fattened; thus rendering any extra care unnecessary until they were ready to send to market.

Leaving the foregoing suggestions for the consi-

deration of the public, I turn the attention of the reader to the method

Of Steaming and Preparing Food for Animals.

I will give the result of my experiments upon these points: they were made in America, and formed the subject of some lectures I delivered there, and which I purpose resuming in London.

On one occasion a number of cows were selected from a large stock, belonging to a friend of mine, for the express purpose of making the trials: they were such as appeared of the best kind, and those that gave the richest milk. In order to ascertain what particular food would produce the best milk, butter and cheese, I tried different species of clover and grass separately, and found the quality and flavour of the butter to vary very much; but what proved of the utmost importance, was, that I found many of the grasses, such as the *agrostis stolonifera*, and many of the bent grasses—the *bromus* or broom grass and others, coated with silica or decomposed sand, and too hard and insoluble in the stomachs of the cattle,—the *arundinaria* or reed grass in particular, when cut off the summer's growth. In consequence of this, I had the grass cut and well steamed, and found that it was readily digested; and the butter that was made from the milk, much firmer, better flavoured, and would keep without salt longer than any I had seen before. Another circumstance that attended the experiment was, that in all the various grasses and grain, that were intended by our Creator as food for man and beast—the various oils that enter into their composition, were so powerfully assimilated or combined with the other properties of the farinaceous plants, that the oil partook more of the character of essential oil, and was not so easily evaporated as that

of poisonous vegetables ; and experience has proved, that the same quantity of grass steamed and given to the cattle, will give more butter than when the hay is eaten in its dry state. This fact being well established, from the numerous experiments I have made on the steaming of food for the improvement of the quality of the milk, butter and cheese, I am satisfied of the saving in, and superiority of that mode of feeding to any other that has hitherto been employed, as well as its advantages of feeding and raising stock: the meat of which and cattle being more wholesome, tender and better flavoured than when fed in the ordinary way.

In order to convince the public of the utility of steaming the food of cattle, I will advert to the practice of mankind roasting, boiling and steaming their own food, to make it more beneficial to health, for this reason :—that the process of steaming throws off a portion of the noxious properties, that are very frequently assimilated in the growth of vegetables as well as animals. Common sense will dictate, that the improvement is more congenial to the nature of man ; and the authority of scripture suffices, without appealing to reason ; for we learn that mankind lived on vegetables in a primeval state of innocence. Many there are who are still advocates for continuing the practice, alleging, with some truth, that by eating animal food we partake of the disease of the animal : and it is no less true, as I have stated in a former part of this work, that vegetables become diseased by improper cultivation, and consequently produce various disorders in animals and men. However, as a proof that in Britain a vegetable diet is better than animal food, we have only to look at the finest men, and we shall find that they have lived principally upon vegetables,—can endure the greatest hardships, and, as soldiers, could stand the effects of hot and pestilential climates better than those who have eaten much animal food.

My father was much affected with a scorbutic complaint; and was brought to the gates of death; but by living upon vegetable food, and abandoning the use of salt, he got better, and was induced to entertain so high an opinion of vegetables, that he gave them to his children; and, as respects myself, I may say, that until I was fourteen years of age, I hardly ever tasted butchers' meat: when I occasionally ate it, my stomach became so disordered that I always vomited it up again; neither did I before know what it was to have a head-ache, or be troubled with thirst, as afterwards was the case. The quantity of water I drank attenuated my blood too much, and brought on weakness and relaxation of the muscles.

Having pointed out the effects of steaming the food, I will now describe the manner in which the operation is to be performed. A boiler that will hold from fifty to a hundred gallons, should be placed in a convenient situation, upon an iron furnace, so as to render it moveable at pleasure, although it would be better as a permanent fixture. The boiler should have a safety-valve fixed in the middle of the lid, which should be six inches in diameter, and screw and unscrew to the boiler, when it is necessary to replenish the boiler with water. The valve should be three or four inches long, one inch or one inch and a half in diameter, as the size of the boiler may require, with a small bar across the bottom of the tube, and a little hole in the centre of the bar, to allow the stalk of the valve to pass through it, which must be in the form of a pencil, two inches longer than the barrel, to allow the steam to escape, with a guard at the bottom, and have a notch in it, the size of the guard, to prevent the valve flying out. There should be a concave head to the valve, to fit the tube close, and of sufficient weight to prevent its bubbling up unless the steam be strong. Next, procure a pipe resembling the neck of a goose when standing erect,

the wide end to be connected with the cover of the boiler, with a screw at the upper end, to connect the pipe that conveys the steam from the boiler to the box, which should be made of three inch plank, from four to six feet every way, or as large as may be required, strongly dovetailed at the corners, fixed with screws, with a false bottom, about eight inches from the bottom and perforated with holes, drilled the size of a lead pencil. In order that the steam may ascend, the pipe from the boiler should enter immediately below the false bottom, through a hole made for the purpose, and the same bore as the pipe. When thus prepared, the box should be filled with chopped hay, straw, chaff, or any other dry food that is proper for use. The steam should be turned on, and kept exerting its power, from four to twelve hours, according to the hardness or softness of the food. When cool, a pailful of it, mixed with a few handfuls of cracked oats, barley, or bran, should be given to each cow night and morning, and a spoonful of salt thrown into the pail twice a week. The cows should, in addition, have a sufficient quantity of dry hay to chew the cud: the quantity to be increased as may be deemed necessary. They must be kept perfectly clean, and be combed with a wool-card every morning; for this practice will create that circulation through the skin, which is as necessary to the health of the cow and the milk she gives, as a free circulation is to the lungs. Another great advantage obtained by steaming is, that it volatilizes or throws off the oils of many poisonous plants that may be among the hay, particularly the butter-cup, and keeps the cattle from suffering from the bad effects of the poison. When potatoes are steamed, a considerable degree more of their poisonous powers dissipate, than would by boiling them, and consequently they are much improved for food. Having paid great attention to the cultivation of this article, I may be allowed to suggest something that will be useful to

the farmer. Potatoes ought to be raised on new earth,—gravelly, chalky, marly, slaty and mountainous soils. In such situations they are more mealy and wholesome; but when grown in rich manure, and clayey soils, they are apt to produce typhus fever. When obtained from their proper soils, they are not only valuable in their natural state, but the flour that may be made from them, after the following manner, is no mean substitute for that obtained from many grains. They should first be macerated, then soaked in water until the liquor is tasteless; and the flour, when sufficiently dry, and sifted in order to separate the gluten from the starch, will be found perfectly wholesome, and better adapted for making pies, puddings and pastry than wheaten flour. It resembles arrow-root very much, and is frequently sold for that article. It is well adapted for gruel, and all the purposes for which arrow-root is made to answer; and if boiled in milk, it becomes a light and wholesome supper for invalids in particular.

During the process of boiling potatoes, the poisonous or night-shade principle is so blended with the starch and gluten, that it can never be separated by any chemical process, so as to produce gluten and flour afterwards. There are large factories in France for making flour, which is readily bought by the inhabitants for the abovementioned purposes.

The American Indians, from whose country the potatoe originally came, never use the article unless prepared as above. If it were to be raised on low grounds, and eaten in the torrid zone, in the same way that it is in England, it would prove a mortal poison.

When potatoes are packed in air-tight casks with earth, they will keep during a long voyage, and are the best anti-scorbutics I know, when boiled in salt water. The skins become black, in consequence of the sea-water drawing out the poison, and thence the

potatoes are more wholesome than when boiled in fresh water, and are a great luxury at sea.

Carrots, beets and parsnips should be raised on dry ground, particularly carrots and parsnips, as a wet soil renders them poisonous, as well as all umbelliferous plants; and as they frequently are made food for cattle, they should be well steamed. They, as well as potatoes, should be packed in earth, the way I have already stated, not only to preserve during a voyage, but in the spring of the year, when it is absolutely necessary to keep the air from acting upon them; for if that element reach them they become poisonous and hurtful to the constitution. I was the first who discovered the utility of preserving vegetable and animal substances from the action of air, and received the medal from the Society of Arts in 1814, after pointing out my method of preserving meat and poultry in tin cases—the manner in which I had kept them in the highest perfection from the month of September until Christmas, a period that was very hot in New York, when they were packed. I wanted to introduce, in my communication to the Society of Arts, the system of preserving both vegetable and animal substances; but one of the members, who wished to confine me to one article, with the view of answering his own particular interests, rendered my attempt for the time useless; for upon the intimation of that Individual, the Society would not reward me, except I confined myself to one substance, which was to be defined by name. As potatoes appeared to me to be an article of very great consumption, and, as a good anti-scorbutic, well calculated to preserve the health of seamen on long voyages, I chose it in preference to either poultry or butchers' meat, upon which I had made various successful experiments, preserving it in small tin cases, and which served me for food during my long excursions in the extensive forests of America. The result of these experiments

and discoveries, made in 1809, I communicated to the Committee of the Society, and the world is now indebted to me for the discovery, and not to the man who has taken out a patent—pretending that he was the first who discovered that both animal and vegetable substances may be preserved by excluding the air. He took out his patent long after I had received the medal, and made the principle known, as equally applicable to animal and vegetable substances, merely by the exclusion of air and moisture, after having evaporated the watery particles by heat.

I have further to observe, that a practice highly detrimental to the health and comfort of the inhabitants of London, is now very prevalent: I allude to the exposure of various articles of food to the action of air and moisture, as is evident from every shopkeeper, who is a cheesemonger, having every thing he sells so exposed as to imbibe as much of the London effluvia as possible. One would suppose they were hired to injure the constitutions of their customers. The grocers are no less expert in the articles in their way; as also the dealers in meal, flour, &c. Every species of grain, when ground, will soon spoil if exposed to the action of air and moisture, particularly oatmeal, which, in consequence of its being kiln-dried, converts it into a poison. As food for children and invalids, it is the most wholesome of any substance in its pure state; but when it becomes saturated with the London air, it is not surprising that it frequently disagrees with people. Roasted coffee is another article that soon imbibes a sufficient quantity of noxious air in shops and kitchens, so as to render it highly prejudicial to health. In many of the coffee-houses in London it is actually sour to the taste, and thence gives rise to acid stomachs, so prevalent in London. In France, Germany and the West Indies, I have found that those who were in the daily habit of drinking coffee, lived, in general, to a greater age than the inhabitants of any

other country, who lived on other articles of diet : yet we are told by writers on indigestion, that if coffee become sour on our stomachs, we must not drink it ; which is, in fact, telling us that we must not use it at all, and thus deprive the inhabitants of this great city of one of the best beverages (for aged persons in particular) that can be found, if it be properly roasted and preserved from the action of air and moisture until it be wanted for use.

Butter is soon spoiled by the action of the London atmosphere. It keeps much longer in the country, and considerably longer in air-tight casks or jars.

I have only mentioned three articles of food that are the most liable to be injured by exposure to air. I might mention others—but one of the most uncontrovertible laws of nature—that when life is destroyed, air and moisture will cause a rapid decomposition, clearly points out the necessity of excluding the action of the atmosphere from food. It is truly astonishing that mankind, particularly the professors of the healing art, should have remained ignorant for two thousand years of that invaluable art ; and knowing that the Egyptians preserved their dead bodies ; and even after this great lapse of time, when opened, are gazed on in surprise by men in our degenerate days, who arrogate the title of philosophers and masters of the healing art. What is still more surprising, these titles have been given to them by the learned heads at our seats of learning.

I have now, in air-tight boxes and paper, plants, that were preserved twelve years ago, as active in their physical powers as they were the first day they were preserved. If put into tin cases, they would keep as long as the Egyptian mummies, and still preserve their medicinal powers.

Society would derive considerable advantage were our rulers to adopt the same principle in years of plenty, so that there might be enough and to spare.

for every body. We should then have our minds free from those distressing ideas that assail us when we see thousands of our fellow-creatures at this time actually dying for want of food. What can be their impressions as to the dispensations of providence? Can they look up to heaven and repeat that portion of sacred writ, with an experimental aspiration:—“The eyes of all wait upon thee, and thou givest them their meat in due season: thou openest thine hand and satisfiest the desire of every living thing.” What will be our condemnation for being the cause of such misery?—or what will the reply of those be to the charge,—That, with the hand of ruthless violence, to pamper luxury, they have heaped up to themselves riches out of the industry of the present sufferers, and will not now relieve them in their distress.

As a precedent of what kings and rulers can do, we have only to regard the policy of King David, who, by his wise and timely measures, secured to an innumerable host of people, sufficient food (the produce of a country smaller than England and Wales) during the length of time the Temple of Jerusalem was being built. In this instance of kingly prudence and legislation we find, that not only a large standing army was supported, but there was sufficient grain and other produce to give in exchange for the materials of which the building was composed. What then is to prevent there being raised in this country a proportionate quantity of food; and what object, next to the one that now agitates the country,—the granting of civil and religious liberty to all classes of individuals,—could render the reign of his present Majesty more glorious, than by arousing the landowners from their supineness, and compel them, for their own interest and security, to employ double the number of hands on the soil. His Majesty might justly take up, and apply to the landlords and farmers, the language and advice of the greatest of

kings, as recorded in the sixth chapter of Proverbs and sixth verse:—"Go to the ant, thou sluggard; consider her ways, and be wise: which, having no guide, overseer or ruler, provideth her meat in the summer, and gathereth her food in the harvest."

The late Dr. James Anderson, who wrote many able works on civil liberty, and who was no less distinguished for his patriotic endeavours to secure its full enjoyment, gave to the world some valuable works on agriculture, one of which, on the corn trade, refers particularly to the policy of the Jews. He made copious extracts from scripture, the archives of that extraordinary people, and every work that was to be found in the libraries of other nations. From these sources, when he had made the necessary allowances for the Levites and others who were exempted from military duty, he fully proved that the return made by Joab, as described in the twenty-first chapter of the first of Chronicles, and the fifth and sixth verses, was correct. The passages run thus:—"And Joab gave the sum of the number of the people unto David. And all they of Israel were a thousand thousand and an hundred thousand men that drew sword: and Judah was four hundred three score and ten thousand men that drew sword. But Levi and Benjamin counted he not among them: for the King's word was abominable to Joab." This prodigious mass of population was supported on an extent of territory not larger than England and Wales; and independent of the provisions they consumed, when Solomon ascended the throne and began to build the Temple, the quantities of corn, wine, oil, &c., and the abundance of cattle that were given to other nations in exchange for building materials and labour, and consumed by the inhabitants, not forming part of the standing army, must have been beyond calculation. What is still more extraordinary, not one of the animals that was diseased, or had a spot or blemish, was allowed to be eaten; that

certain parts of the animal was rejected, and a great number offered in sacrifice. Such an unprecedented or subsequent increase, clearly points out the superior mode of cultivation adopted by the Jews, compared with that to be found in our time. Indeed, that part of the parable of the sower that refers to the increase of thirty, sixty and a hundred fold, can only be applicable to, or accounted for, upon any other principle, than that of trenching and allowing the soil to rest, according to the Mosaic laws of agriculture.

Since I stated my experience on trenching, I have had an opportunity of learning that the first year's crop, after trenching, is sufficient to defray every expense it occasions.

A patient of mine from Yorkshire, has informed me, that in order to destroy the buttercup, he trenched a field, and afterwards pointed in a light top dressing of manure. The first year's crop paid all the expenses of manuring and trenching, and the value of the crop was four times as much as it had been before the land was trenched.

What a contrast is presented when the miserable policy of England is compared with that of the Jews, whether we look at the crops or animals! Of the latter we find, in England, one third of those brought to market diseased; whereas, under similar circumstances, they would be condemned by the Jews.

The policy so strongly recommended and partially put into practice by Doctor Anderson, in order to shew the practicability of increasing the comforts of the inhabitants of Britain, by raising sufficient and to spare, and even to export in a raw and manufactured state, appeared to be so great an eye-sore to the advocates of monopoly and the Bute policy, that they bought up the whole of the Doctor's work on the corn trade: so completely did they succeed, that even the copy I brought with me from America, was

borrowed by Lord Sommerville (after a fruitless search by him among booksellers), in order to make a few extracts, and has not been returned. He made some extracts from it, and I believe published them in 1813. He thought the monopolists were as anxious to keep the Doctor's work out of the hands of the public, as Nero was the bible. I well remember the words of General Washington, after he had read that invaluable production. He observed, that had the rulers in Britain followed the Doctor's advice, the Doctor would have been the saviour of his country : but, if monopoly were once allowed to have full sway, it would soon leave but two classes—the overgrown rich and the poor ; or, more probably, the tyrant and slave. He generally considered the Doctor as one of his best political advisers, and stated, that he read the Doctor's works with much interest, for they contained such practical hints as were calculated to improve the condition of man.

The political change (the emancipation of the Catholics) that now agitates the minds of the people, is but of small moment, compared with the want of proper nourishing food. The many thousands that are starving, and are diseased from the use of improper and adulterated food, is a question paramount to every other consideration ; and I sincerely hope, that those Members of Parliament, who are laying so much stress upon religious form, will be the first to shew the public, by their attention to provide for the pressing wants of the poor, that their actions correspond with their profession and belief. If the subject were truly represented to his Majesty, I have no doubt but he would order an immediate inquiry to be made, and the most active measures to be adopted to supply the wants of man and beast. Such measures would strengthen his kingdom, and add a never-failing lustre to his crown.

It will be proper, before pointing out the effects of various diseases, to make a few observations on

the best modes of preventing disease : these consist in *well regulated exercise and appropriate food*.

The necessity of exercise being acknowledged and well understood, I turn the attention of my readers to *aliment*. Although a subject of the utmost importance, it is far from being understood. Unwholesome food and irregularity in diet are the causes of most diseases, and the whole constitution of body may be changed by them alone : the fluids may be altered from an unhealthy to a healthy state ; they may be attenuated or condensed ; rendered sweet, acrid or acid. Nor are the effects of food less considerable on the solids : these may be braced or relaxed,—have their sensible motions diminished or increased. A little attention to the various actions produced on the fluids and solids, will be sufficient to shew how much the preservation of health depends on a proper regulation of the diet : attention to it, is no less necessary in the cure of disease. To me it is truly perplexing, to see so many of my patients having their disorders constantly aggravated by the diseased butchers' meat, and the adulterated food they eat. Every step in the cure of disease is very much assisted by wholesome diet, and a permanent cure cannot be expected unless that be obtained and adhered to. Two of the greatest errors committed by people, when they conveniently can do them, as they think with impunity, are eating too many things, and too much, at one time. The best rule is, to avoid all extremes. There is nothing more common, when people satiate themselves, than the most active fermentation to take place ; and as the quantity of the nutritive powers of the food cannot be taken up before it passes from the vinous into the acetous or putrefactive fermentation : the natural consequence is, that visceral inflammation ensues, and is sure to be followed by disease. It will be proper in this place to give the Linnæan principles of physic, which “ suppose the human body to consist of a

cerebrose *medullary* part, as brain and spine, of which the nerves are so many processes (and which is commonly called the *nervous system*); and a *cortical* part, including the *vascular* system: the former being the animated part, or that in which the sentient, moving principle peculiarly resides, is considered as deriving its nourishment from the subtlest fluids of the vascular system, and its energy from an electrical principle inhaled by the lungs. Further, this theory supposes the circulating fluids to be capable of being vitiated, by substances which the author chooses to consider either as *acescent* or as *putrid* ferments: the former acting on the *serum* of the blood, and being the exciting cause of *critical* or continued fevers; and the latter acting on the *crassamentum* or fibre of the blood, and exciting phlogistic or inflammatory diseases. The exanthematic or eruptive fevers, he supposes to be excited by some external causes, which we call *contagion*, and which (hypothetically) he pronounces to be animalcula. From the incessant attrition of the cortical or vascular system, it requires perpetual reparation: this is to be effected by appropriate *diet*. From an *improprie* diet, originate most of the diseases of this part of the system; and these are to be remedied by *sapids*, or medicines which have a strong taste; as those of the medullary or nervous system, by *olids*, or medicines which have a strong smell. Hence arises the author's general division of all medicines according as their sensible qualities are discoverable to the *taste* and *smell*. The *sapida* acting particularly on the cortical part, as the *olida* do on the medullary or nervous system."

However absurd the visionary theorists of the schools considered the principles of Linnæus, respecting the electrical principle, which he believed was the chief source of animation, and absolutely necessary to feed the lamp of life; and although galvanism was wholly unknown when he wrote on that

subject, the discovery of that science, and the various experiments made through it, to restore animation, prove the ideas of that great man to be correct, and shew that the powers of his mind had been illuminated, as it were, with a ray of that heavenly light that falls to the lot of but few of the human race. In support of his views of the subject, I will mention the experiments and observations I made in South Carolina during the epidemic.

Dr. Shecut, of Charlestown, had the most powerful apparatus I ever beheld. The trials made on electricity, during the fever in that place, furnished him with sufficient evidence that there was little electricity in the air; and although he had three large plates and two small ones, he could hardly elicit a spark; and even when they were at work, he could scarcely feel the effect of the operation. The amalgam on the cushions became as black as ink, and smelt like sulphurated hydrogen, clearly pointing out the excess of hydrogen in the air. When the electricity was deficient in the air, both animals and vegetables had a strong tendency to putrify and become sickly, and immediately after death *mortification* took place. Soon after a thunder storm, the excess of hydrogen being burnt up, and the air rarefied, the whole face of nature beamed with animation, and the pestilential scourge began to subside—occasioned by electricity—the soul of nature was restored. Electricity has a powerful tendency to heal ulceration, particularly such as is caused by acid or acrid substances: hence that disorder is rapidly cured when brought under the influence of the air in fir or pine forests. It is also known that these resinous plants have a great affinity for electricity. Those patients, affected with pulmonary consumption, who go from the Northern States to Carolina or Georgia, generally recover. Indeed, I never knew one that did not.

A friend of mine (who came with me from New

York, and who was so far reduced with the disorder, that the doctors said he could not possibly recover), was prevailed upon to go with me, when I went on my botanical excursions into the extensive forests of the country. Sea voyages being much recommended in such cases, we went by water, much against the wishes of his friends. On our arrival at Charlestown I took him to a plantation in the pitch-pine forests. The effluvia of the wood stimulated his lungs, and rapidly brought the abscesses to a state of suppuration. He being a stout man, the discharge of purulent matter was copious beyond any thing I had seen, accompanied with pieces of skin or membrane that covered the tumours. He had frequently before had the matter streaked with blood, but none appeared after he went to the forest. His breathing now became easy and daily stronger; the expectoration rapidly decreased, and in a month entirely ceased. The inhabitants burn the pine timber, and this circumstance gave him an opportunity of inhaling the fumes from the pine in a state of combustion, which powerfully contributed to the cure.

I have advised many hundreds, and do now recommend all who are affected with pulmonary consumption, to go to Carolina and Georgia; and if alterative medicines are taken, and the plan of diet I recommend be pursued, the trial will be attended with success; for I believe there is no country where consumptive patients are so likely to recover as in those parts.

Should any person be inclined to go there for relief, or to be cured of the complaint, and have occasion to take a servant, it is adviseable that the servant be of a weak constitution, rather than in good health; as those who have no occasion to derive benefit from the journey, so far as their health is concerned, will probably be injured instead of being benefited by it.

The views of Linnæus, upon all disorders arising from acids and putrid fermentations, are correct, as I will shew from both cause and effect, when I treat of the various disorders produced by different ferments. I have noticed two substances (not noticed by Linnæus) that are natural acids and tonics, when they spoil or are diluted with air: if administered, they are sure to bring on the most distressing complaints, independent of the action of the two former ferments. His opinion, that contagious disorders are produced by animalcula, is also correct; for I am assured, that disease can only be occasioned by the above circumstances, and the affections of the mind. To suppose that it arises from any other cause, when the person is living abstemiously and upon proper diet, is a libel upon the Author of nature. But supposing that mankind might be diseased by foul air, and allowing that sulphurous and other gasses will destroy life, man is not liable to be affected; for all air that is destructive to life, floats on the surface of the earth, owing to its being heavier than common air, or is so volatile as to rise above it; thus rendering its effects upon man, whether walking in an erect posture with his mouth elevated, or riding on horseback, an effectual preventive. In all countries liable to pestilential disease, laying on the ground is almost sure to bring on fever and other disorders: but poisonous substances, taken into the stomach, will do more to injure the constitution in a day, than all the air, ordinarily breathed, in a month, when in an erect posture.

Linnæus's views of sapid, strong tasted and bitter substances, so essential to act on the vascular system, as olids, or strong smelling substances, are for the nervous system, are confirmed by the experience of the first masters of the healing art, who have existed in every age, independent of their being some of the most permanent laws of nature. I

must observe, that powerful poisonous plants are to be excepted from the general rule, by all those especially who live according to the laws of nature.

The first thing to be taken notice of in the economy of life is *water*, as being absolutely indispensable to the production of vegetable and animal life. It is a powerful solvent, and will act upon decayed vegetable substances, when assisted by heat and air, as also upon minerals and earths, and is absorbed by the roots of vegetables, together with the substances which it holds in suspension or solution: the substances are again absorbed or deposited in the formation of the plant: every plant, according to its nature, absorbing such substances, if in the water, as are agreeable to its nature. If the soil do not contain substances agreeable and necessary to the formation of the plant, it will become sickly, and will not thrive on such soils. Water is no less necessary for the formation of animals and the preservation of health and the cure of disease. Our Creator has ordained, that plants should contain in their composition, in a far more refined state, all the elementary substances necessary for the formation of man, than there are in minerals and earths; thus clearly shewing the propriety of confining ourselves to the use of vegetable substances, whether as food or medicine; and making the study of those plants which possess the powers for preserving our health and strength, both in body and mind, one of our principal occupations in life. As water, when pure, is the vehicle for carrying good substances into the body for the preservation of health, it is also capable of conveying bad substances into the system, and cause premature disease. It is true, that mineral waters have been beneficial: this arises from their powerful action on the system. The same benefit would have been derived from a judicious administration of vegetables containing the same sort of substances that were held in suspension by the water, without the

risk of doing harm, as the crude minerals and earths are not so well suited to the constitution. An ounce of pure or distilled water, will hold fifty different substances in suspension, that would destroy life. This circumstance clearly points out the danger of using water that passes through the poisonous substances contained in the earth. There is probably not such filthy water to be found as that in the Thames below where the tide ceases to flow, occasioned by the filth it receives of a million and a half of people, and that which is constantly added between Greenwich and Twickenham—the drainings of thousands of stables and slaughter-houses, gas-works and factories; and kept in an agitated state by the ebbing and flowing of the tide, without being carried away; and which, when combined with our food, must not only produce the most putrefactive fermentation in the stomach, cause inflammatory diseases and indigestion, particularly when mixed with the poisonous food before mentioned: but the thought, that the evil does exist, must be revolting to our nature, and be ample satisfaction to the inquiring mind, as to the cause of indigestion, and its awful train of attendants. I have had many opportunities of seeing the diseases produced by water, after having travelled over a great portion of the globe, and observed the bad effects produced by it, particularly in New York and other cities of America, where I conscientiously believe it contributed as much as, if not more than any other substance, to produce the yellow and putrid fevers. These diseases, which yearly caused the inhabitants to desert the cities, since they have got good water, have ceased. There is no place in the world that could be better supplied with water, and at less expense, than London. This might be done, by bringing the Thames water from above, where the tide ceases to flow, by means of a covered canal, and then raising it into reservoirs, for the supply of the west end of

the town. By these means we should have the finest supply of wholesome water, and in great abundance. Had the companies been compelled to adopt such a system for supplying London, many thousands would have suffered much less bodily pain than they do now.

To give my readers some idea of the dangerous consequences of drinking hard and putrid waters, I will enumerate a few of the long catalogue of diseases observed by the most eminent practitioners of ancient and modern times.

Hippocrates observes, “ In countries where the inhabitants are constrained to use the stagnant and putrid waters, the belly and spleen must in such persons become diseased. A train of evils is the consequence of the use of such waters:—marasmus, dropsies, fluxes, agues, peripneumonia, insanity, abortions, strangury and nephritic complaints.” Hoffman, speaking of the quality of the water, says, “ Hard are most injurious to the viscera, and in particular to the spleen, as being very vascular, and by its stagnating in its small vessels, the whole gland is easily raised into a large tumour. It has been constantly asserted, that scrofulous tumours of a great magnitude are indigenous from the use of hard and rough waters. Putrid waters are chiefly to be avoided, which not only corrupt the air by their pestilential exhalations, but are likewise capable of producing putrid diseases and fevers.”

A volume of authorities might be quoted, pointing out the pernicious effects of hard and putrid waters, but as it is my intention to treat the subject more fully at a future period, I shall say no more at present. I have had much intercourse with the American Indians; and one of the many things that surprized them was, how man could live after he had drank so freely of bad water. The use of pure water is of the first importance to people in health, and indispensable to the sick.

FARINACEOUS SEEDS.

They make the chief vegetable nutriment of all nations. They are subdivided into three kinds, viz.:—*graminosa* or grain, *leguminosa* or pea kind, and *nuces* or nuts. The first are the purest farina, the second are more oily, and the third are still more so, so as to have the oil separate and easily extracted from them. The *graminosa* are in most general use, their oil being more assimilated to the other substances of which their nutritive powers are composed, and not being liable to fly off by drying, baking or boiling: the whole of the species is of the same nature, and furnish aliment to man and domestic animals: their properties are much alike: they are all acescent and saccharine, or by malting become convertible into a saccharine substance. They are the most proper subjects of fermentation, for their acescent properties are volatilized in the process of cooking, particularly in the form of bread.

Wheat ranks among the best of grains: it produces finer flour than that of any other description. It contains a larger portion of gluten, is well calculated for making bread, and adapted for the food of persons who have strong digestive powers; but in the stomachs of invalids, or those of a costive habit of body, it runs into a hard pasty substance, and is apt to lodge in the lower bowels, in consequence of the quantity of gluten it contains, and is but too frequently obliged to be broken down by powerful doses of medicine before the bowels can be relieved. In such cases it is better to mix it with fine bran or the flour of some of the other grains, in order to make it more soluble in the stomach and intestines.

Barley is a much sweeter grain than most of the others, its sugar being less covered by the oil; hence it is the most common subject of fermentation; and when made into beer, and but slightly hopped, as a

beverage it is very naturally more nourishing than any other grain known. Various experiments have been tried in Scotland to discover which is the most appropriate food for the reapers during the harvest, and the result has proved that none is equal to bread and well fermented sweet beer, taken three times a day, without any other food, during the haymaking and harvest seasons. With such diet the labourers can perform the most active and the hardest labour that ever was done by any equal number of people on earth, without diminishing the bodily strength. Barley-water or gruel is excellent for cooling and allaying the heat of the blood in fevers, and will relieve patients afflicted with bloody urine, arising from the application of vesicatories by an unskilful hand. When made into pearl-barley, it is superior for making soup to any other substance that I know, particularly as an article of food for children. Whisky, made from the malt of barley, and kept for a proper length of time, is not inferior to any other spirit now in use.

Rye has also a particular sweet quality in its composition. It is hotter than wheat, and is therefore from these qualities considerably acescent, and soon liable to ferment in the stomach and produce purging, which most people experience when they first use it: but those who employ it in the form of bread in Holland and Germany, we find are as hardy as those who live on other grain. When used as a poultice, it is more powerful in discussing tumours than any other grain. It is liable to be diseased by an insect depositing its animalcula in the grain, which causes it to sprout and produce an excrescence like a cock's spur, of a hard texture. When ground down with the flour, or used in distillation, it proves a mortal poison; and at times has proved the pestilential scourge of Europe: it has been equally fatal in America, and is supposed to have been the chief cause of the plague in London. In 1811 and 1812,

a great number of lives were lost from the spurred rye being used as food, and the liquor distilled from the rye. The great mortality was chiefly confined to New York and Vermont. Upwards of twenty thousand victims fell a sacrifice to the ravages produced by that dreadful poison. Meeting after meeting of the faculty took place, to endeavour to discover the cause; and after the most mature deliberation, it was discovered by Dr. Hosack and his party, that it was a poisonous miasma floating in the air, confined to certain prescribed limits, and affecting certain persons, more particularly those that were in the habit of drinking gin:—the best apology for their ignorance of the true cause—the ergot or spurred rye. What made their report the more ridiculous was, that there was at the time a fine, clear, black, hard frost, and the healthiest weather that could be imagined. Many of the members were sceptical, and could not believe the report: they thought, that owing to the fine weather, it was impossible for contagion to exist in the air: others were of the same opinion with the doctors. One of the non-contagionists wrote and requested me to go to Albany, where the disorder was raging, and wished me to endeavour to discover the cause of the afflicting calamity. On my journey from New York to Albany, where the legislature of the state was sitting, I stopt at a place called Kinderhook, and being cold, contrary to my usual practice I drank a glass of gin. I had not drank it many minutes before it affected me as if I had taken something boiling hot into my stomach. Although I immediately took an emetic, which produced the most active effects, the poison had taken so firm a hold of my constitution, that my throat and rectum were extremely painful. I had a cold perspiration towards the morning, with a pain in my bones and head, whereas I was in perfect health before I drank the gin. I accused the tavern-keeper of putting poison in the gin: a gentleman of

the town who heard me, and had observed that the habitual gin drinkers in the place had died, seconded me in my charge. The landlord declared he was innocent, and referred us to the distillery. Upon our applying, the distiller was much alarmed at our charge of his putting poison in the gin; and added, it would be his ruin if the report got abroad, in consequence of the great mortality. He took a voluntary oath, and assured us that he put nothing but the pure grain in the gin, and invited us to see the grain in the still-house loft. We found it, on inspection, badly cleaned, and probably one-tenth of it spurred rye, or rye vitiated by being infested with the clavus or ergot. I was quite astonished when I saw it, particularly as it was so well described by Dr. Darwin, as being a pestilential scourge in various parts of Europe, producing what is called by Dr. Mason Good, in his history of medicine, mildew mortification: in America it was vulgarly called the dry rot. On dissection I have observed that the wind-pipe and rectum were so completely parched by the action of the air stimulating or attracting the effects of the poison to the parts, that when pressed they would give way and appear like black snuff.

I lost no time in repairing to Albany. On my arrival, the inhabitants were in mourning, on account of the loss of their relatives and friends, some of whom had risen in health in the morning, had eaten a hearty breakfast, and at noon were in eternity! Such were the rapid effects of that inflammation, which was ascribed by the Doctors of New York, to the air of Albany being charged with the damps of death. The Members of the Assembly of the State had at the time under their consideration, a resolution to enable them to remove the State Legislature from Albany: it was expected that the resolution would be carried the same night, to the great and irreparable injury of the inhabitants. To the friend who was waiting for me at the hotel, I communi-

cated the glad tidings of having discovered the cause of the disorder. He immediately ran to the assembly room, and obtained the members' consent to adjourn the question until the following morning. The tavern where I was was soon crowded by the members and citizens, all anxious to know the cause. It was no sooner communicated, with a detail of my own sufferings, than the members searched the book shops and libraries, and found, to their great satisfaction, that the ergot was capable of committing the ravages upon mankind that I had represented to them. One of the sceptical of the faculty, on being requested to analyze the article, and report on the subject, took a few of his acquaintances some distance into the country to dine at his father's farm, where an opportunity offered to prove whether the ergot was injurious or not, for a large quantity of it that had been separated from the rye was given to the pigs ; and from its fatal effects) as it caused their death the next day), the father became a convert to the opinion. A number of rats, cats and dogs also fell sacrifices to its effects before the sceptical were convinced. Its poisonous powers operate so powerfully, that a few grains of it would cause abortion ; and it is now no uncommon thing to administer it to facilitate childbirth : this it will do in an hour after it is taken—sometimes to the serious injury of the child, but always contributing to the ease of a lazy and money-making accoucheur. I have often been called to witness the severe sufferings of children after their birth, occasioned by the effects of the poison that is imbibed by them through the umbilical cord. There can be no doubt as to the ergot affecting children under such circumstances ; even if it did not, the unnatural efforts of the mother are sufficient to produce the bleeding at the mouth, nose and ears, and convulsions, and even death, from the milk taken at the breast. Provided the children survive, the effect of the poison is seen in their eyes.

From the best information I could collect of medical men, it was thought a dangerous remedy, if even given in small quantities: an ounce of it may be administered, in its violet-coloured state, without apparent injury. It is true, that the animalcula do not always come to perfection: when they do, the colour is black; and in this state a few grains would destroy life. The insect resembles that found on the potatoe, with shining black crustaceous wings, a greenish-yellow belly, and fiery-looking legs; and, contrary to the nature of all other insects, it is the most active in frosty weather. The *lolium temulentum*, a species of rye-grass, is very subject to be affected with the ergot; and when eaten by horses, it is sure to kill them.

As a great number of poisonous insects are to be found, it would be worthy of the entymologist, when in search of the genera and species of the insects, to point out their physical powers, so that mankind might be aware of those that are destructive to health and life.

Oats—This is a stronger grain than the two former, its sweetness being less obvious, and the oil more intimately blended with the sugar: this appears from more nourishment being actually obtained than from the same quantity of barley or rye. Oatmeal is better adapted as food for children, than any other of the grains. It would not be difficult to prove, that the finest men that ever adorned the British Empire, have been brought up on oatmeal; and taking bodily strength and intellect into the account, I believe they have not been excelled by any other men on earth. The inhabitants of the districts of the north of England, of Scotland, and the north of Ireland, are those who in their youth have been brought up on oatmeal; but since the introduction of foreign luxuries they have suffered much in their health; their bodily strength is diminished, and, what is still more lamentable, they have suffered much in their moral

rectitude, from the stimulating poisons that have been introduced as food, drink, and medicine. These being the consequences of departing from the primitive simplicity of our forefathers, I earnestly advise the people to return to the old regimen of oatmeal, eggs, butter, cheese, milk, vegetables, meagre-soup, made of barley and vegetables, with the addition of a little butter and milk mixed with them, instead of butchers' meat, and prohibit their children from eating any animal food, of any kind, until they are grown up. With such a diet they would become more useful members of society than they are now. Oatmeal, in its sound state, is entirely without bitterness, which Speilman and other writers have alleged to be in the bread made of it. It is more free of acidity than any other grain; but when exposed to the action of air, it will soon become acid and bitter, more particularly if exposed any length of time, the putrid air of London, which soon converts it into a poison, and will produce heart-burn and acidity in the stomach. Can it be surprising that it does so, when it is not unfrequently kept in the drawers of the apothecaries' shops for six or twelve months, imbibing all the noxious effluvia emitted by the number of poisonous drugs the shops contain. If made into gruel in such a state, and given to patients afflicted with fever and inflammation, instead of cooling their stomachs, it will have a contrary effect. As respects the objections raised to its being heating, I trust what I have said is enough to convince the public, that the fears of the medical men and the vulgar are unfounded, without adding the evidence of the unqualified reception it obtains in the East and West Indies—whither great quantities are sent, packed in tin cases, to make into gruel for the sick and for domestic purposes, notwithstanding arrow-root, sago, &c., are in abundance and in the greatest perfection, still the oatmeal is preferred. Another instance in which oatmeal

proved the means of curing numbers of that formidable complaint, indigestion, which occurred at Manchester during the winter of 1816, when, as I was informed by Dr. James Hamilton, owing to the great scarcity of flour, oatmeal was substituted, and proved more advantageous than all the prescriptions of the faculty. It was no less beneficial on the Cornish miners, in the same year, as appeared by a paper read before the Royal Society. Its advantages were not only evident in the improved state of the people's health and spirits, but they performed their work better that winter than they had before. Oatmeal is now in common use among them; and from the small quantity of gluten it contains, compared with that of wheaten flour, it is particularly adapted for such who are of a costive habit. "Wheat contains of gluten 190, of mucilage or starch 765, and no sugar. Oats contain of gluten 87, of sugar 15, and of mucilage or starch 641."—*Sir Humphry Davy's Agricultural Chemistry*, p. 133. From this statement it would appear, that the small quantity of gluten oatmeal contains, prevents its turning into a pasty substance in its passage through the bowels, and the sugar gives it a preference as food for weak stomachs, as also for children and youth. It is not probable the English will use oatmeal, but I hope they will make it a principal article of diet for their children. I have recommended many mothers to adopt the plan I shall lay down for its use, and hope they will avail themselves of it for the sake of their children. I wish it were a general practice to give it to them in porridge, every night and morning, and to invalids in gruel. It has been said that oatmeal produces itch and other cutaneous eruptions: I am surprised that the assertion has not been denied by medical men; for the itch, like any other disorder of the same kind, is produced by an insect. Kiln-drying the oats before they are ground, drives off any acescent properties they may possess; and when fresh ground,

and carefully excluded from the air, they are an excellent remedy for acidity of the stomach, if persevered in. It is true, that after taking it, many patients will perceive acidity in their stomachs; but to account for this, the cause must not be ascribed to the oatmeal, but to the pre-existence of acidity in the system, which is absorbed, in the course of a little time, by the oatmeal.

A decoction of oatmeal, for the ordinary drink of patients, should be made in the following manner: an ounce or two of oatmeal is sufficient to make two quarts of water-gruel. The meal is to be put into three quarts of soft cold water, and set over the fire. The meal is to be constantly stirred among the water till it boils, and then it is to be allowed to boil till a third of the water is boiled away: the decoction is then to be poured through a linen cloth into a bowl a little larger than sufficient to contain it. In this bowl it is to be left to cool; and when cooled, it will be found to separate into two parts; one of them a mealy cloud or sediment, and the other a very thin and clear liquor. The latter is to be carefully decanted or poured off for use. To render it more agreeable, by the addition of sugar, lemon-juice, aromatics, or medicinal substances, I leave to the judgment of the nurse or the physician.

Oriza or Rice.—This is a grain that has long been the food of the greater part of the people of Asia, some parts of Africa and America, and has for some time been employed as an aliment in Europe. It has little sweetness, no acidity, and not easily fermented: it is more divisable than any other of the grains. Spielman supposes it to be less nourishing than barley or rye. It has been accused of having some noxious properties, which make it hurtful to the eyes; and is supposed, among physicians, to possess some drying or astringent quality, and has therefore been employed in diarrhœa and dysentery, in preference to other grains. Its acrid properties arise from

its being cultivated in water, and renders it liable to the attack of insects, which deposit their eggs in it as well as in the rye. I have ample proof, that the brown or black rice, produces cholera-morbus, occasioned by the insect, which invariably leaves the colour upon the rice, and the rice (as I have reason to suppose) being a very dangerous food if used before it is properly dried. I would recommend its being kiln-dried, when in its new state, or passing compressed steam through it, to volatilize its acrid properties before it is cooked. None of its nutritious properties, by either process, will be injured or destroyed, as may be inferred from the little harm done to oats or other grain, on the contrary, they become more nourishing. Steaming the grain not only drives off the acrid and acid properties, but if there be any virulent poison in it, it will also be thrown off.

Zizania, *wild rice*, and different species of this genus of graminous plants, are very common in many parts of North America, growing in marshes, rivers and other wet situations, and have seed containing an excellent farinaceous matter, which is eaten by, and greatly contributes to fatten many species of birds, particularly geese and ducks, and even is used as food by many of the Indian nations, especially those who reside too far north for the growth of Indian-corn. Many of the tribes have assured me, that it is more nourishing than any other grain : its chemical composition is yet unknown. If I may judge from the delicious flavour of the ducks and geese, particularly the canvas-back duck, I should say it must be nourishing and wholesome, for I never ate any thing more agreeable. There is not a better place than Britain and Ireland for cultivating it, owing to the number of lakes, rivers and marshy places with which they abound. It grows in deep waters, and sends out floating roots. So exceedingly fond are ducks and geese of it, that they literally live

during the summer, on stems of the rice before it runs into flower and seed.

I would advise our landlords to import the seed from Canada, and sow it in every lake, pond and river in the country, as it would much contribute to increase the comforts and luxuries of the people; and the only expenses attending the cultivation, would be the price of the seed and sowing it. The quantity of both wild and tame delicious geese and ducks that would be fed, would be more than adequate to the consumption of the country.

Maize, or Indian Corn.—This grain affords a farina of the best nourishing quality, both to man and beast, as my experience in America has fully proved. It is cultivated over an immense tract of the two Americas. There are many varieties of it; and, perhaps, future and more careful researches may discover, that even in North America, more than one species of the genus is cultivated. The meal of all the varieties that I have seen has a marked sweetness. One species, called sweet corn, tastes like liquorice-root, and is well adapted to make puddings without the addition of sugar. Another species, called flour-corn, well ground as fine as wheaten-flour, is frequently mixed with the latter, and made into bread.

Great praise is due to Mr. Cobbett, for his philanthropic exertions to cultivate the article in this country. I am of opinion, that if the varieties of that valuable grain were introduced, and became inured to the climate, taking care to change it frequently from one situation to another, it would be found a useful, and an economical article of food.

Legumina, Legumes, or Pulse.

These plants include a large portion of the papilionaceous tribe of plants. The seeds of pease and

beans, as well as their pods, are very nourishing, as has been proved in all ages.

According to the first chapter of Daniel, it would appear that Daniel and his friends, upon being fed on pulse, according to their own request, were found to have their countenances fairer, and to be better nourished and fatter, than all the children who ate the portion of the King's meat.

I have found that leguminous plants contain in their composition, properties highly beneficial to counteract diseases caused by the use of acids and acescent articles of diet, particularly in cases of scrofula, and all disorders arising from a scrofulous habit of body.

Pease are admirably adapted for the cure of rickety children, and to strengthen the bones of both men and horses. For delicate constitutions, it is better to give them in their green state, taking care to boil them with mint, to prevent their flatulent effects, which may soon be overcome by their habitual use, provided the quantity at first be small, and gradually increased.

It has been observed, that in the early ages of the world, the various grains soon exhausted the soil; and it is now well known, that the best restorative crop is the leguminous tribe of plants. When sown alternately, the soil will bear cropping for a great length of time. In America, the land is now being reclaimed, that has been worn out by long cropping with tobacco, cotton, and Indian corn,—three crops that exhaust the soil quicker than any others. The land that is sown with clover, pease, beans and other leguminous plants, and when these are a foot or eighteen inches high, are ploughed in and repeated two or three times, the land will be in good condition, after being manured, and prepared to receive rye or wheat, and the legumine alternately, with great advantage to the soil. The same mode of cropping has been resorted to in various parts of

Scotland, and has been the means of enhancing the value of the soil more than double to what it was forty years ago. The inhabitants of various parts, who live mostly on pease and bean meal, are very strong; but when they removed into a district where they lived on other grain, they lost much of their strength: this they regained when they returned to their former situation and regimen. A striking instance of a similar kind has come within my own practice.

The subject of the case is a young lady, who, about two years ago, when she was about twenty years of age, applied to me, afflicted with scrofula of the most virulent description. She had been brought up in affluence; but, through adversity, was reduced in her circumstances. Being recommended to my notice by a friend, I undertook the cure gratis. After she had taken a course of baths and medicine, I recommended her to take porridge in the morning, pease-soup for dinner, and rye-coffee in the evening, as her situation in life would not allow her to indulge in any thing more costly. In the course of nine months, she paid me a visit in perfect health. The natural and first inquiry with me was, as to how she had been living: she stated, upon porridge and milk, in the morning; grey pease, boiled to a jelly (without meat), and a little pepper and salt, for dinner; rye coffee and bread for supper. These were the only articles she had lived upon for months, enjoying as good health, and as fine a complexion, as any individual in London.

Another instance of the nutritious and beneficial effects of pease, as an article of diet, is evident from the effect they had on another patient of mine, a lady who had long been affected with palpitation of the heart, indigestion, spasms, pains in the bones, and nervous irritability. After she had taken a course of vapour-baths and alterative medicines, she lived principally upon pease, when they could be obtained

green, and afterwards upon pease-pudding, soup, and butter and milk that were free of the poisonous weeds I have elsewhere mentioned. Her constitution, under this regimen, was restored in a remarkable degree: the pains in the bones entirely left her, and she again enjoyed good health.

Although pease have been accused of causing flatulency, I am persuaded they are better calculated to cure it than any other food, and will relieve the stomach more effectually than magnesia. The way to prepare them, in order to counteract flatulency, is, to soak them in water until they swell and are near bursting, when they should be taken out of the water to dry for a few hours, and be put into a frying-pan and parch them as if they were coffee, but not quite so much. After dinner particularly, some of them should be chewed, so as to incorporate them with the saliva. In this manner they prove an excellent antidote for that disorder and for acidity of the stomach. They may be taken at any time of the day.

Having pointed out the effects of some of the most important of the gramina and legumina, as food for man and domestic animals, I shall take no further notice of them at present, but reserve my remarks upon those that are of less importance for food and nourishment, to another opportunity.

The Oil of Nuts,

Is more used as an article to blend with our regimen than the nuts themselves. In taking notice of oil, I cannot help adverting to Dr. Cullen's views of the subject. When treating of olive oil he observes, "Much might be said of this as a medicine, but I am here confined to speak of it as a nutriment only: and if we consider how much oily matter is necessary to the animal system, it will readily appear why

so much of oily matter is taken in diet. Besides the quantity of oily matter that is almost always joined and intermixed with our animal food ; there is even a part of that, and a very great part of our vegetable aliments, that in our cookery are almost constantly accompanied with oil in one shape or other ; and there are hardly any people known that do not make use of oil in its separate state, and who have not made some provision for this purpose. This provision is indeed drawn from different sources in different countries ; but it seems to be nearly of the same nature in all of them : that is, it is a mild and bland oil, with little odour or taste, and very nearly the same as it is found in many vegetables, and in the bodies of almost all animals. At least these oils, when brought to the same degree of purity, are, except in point of consistence, very nearly the same. There will be no difficulty, therefore, in admitting that the unctuous and mild oils of vegetables are suited to supply the human body, either as it grows, requiring nourishment ; or as, upon occasion of waste, it may require repair.

“ Which of the oils employed in diet are best suited to the purpose, we cannot distinctly perceive ; and believe they are all equally proper, if they are equally free from other adherent matters, and from rancidity in themselves.”

In reading the above, I find something like the notions the Doctor has of vitality ; and no doubt, the learned Professor thought the powers of vitality would conquer the powers of oils, when taken into the stomach : but the experience of all men of common sense and observation would lead us to think the contrary. It will be difficult to make any person of ordinary capacity believe, that croton oil, the oil of tobacco, or castor oil, are the same as olive oil.

That the use of oil is indispensably necessary to our organization and support, there can be no doubt, particularly to the nervous system, as it is generally

found embodied in fat or oil, and of a brilliant transparent fluid in the nerves of a healthy man or animal, and all the nervous parts of the body.

There is no doubt that the principal reason for Moses prohibiting the Jews from eating fat, various foul feeding animals, and particular parts thereof, was solely because of their being prejudicial to health; thus evidently shewing the sound policy and wisdom that governed all the actions of their legislator, and holding out to our rulers a system that is worthy of imitation. Moses appears to have been aware, that cattle and other animals too frequently eat poisonous vegetables, and that the poisonous powers of the oil were deposited in the most gross parts of the animal: indeed, there is far more injury done to the human race by those powers, than by all other substances that enter into the composition of vegetables.

That the olive-branch has obtained the token and emblem of peace, may be ascribed to the beneficial effects of the oil, particularly in warm climates, upon the bodies of men.

Having given a short account of a few of the farinaceous grains, of which a considerable portion of our nourishment (particularly bread) is composed, the next object that claims our attention is the qualities of fermented and unfermented bread. The opinion of Cullen, upon this subject, I will give in his own words, as they appear in his *Materia Medica*. "In entering," he observes, "upon the consideration of this, we are willing to own, that a farinaceous substance, formed by fermentation into a perfect bread, is the most wholesome condition in which farinaceous matter can be employed as part of our food; and we are ready to allow that the unfermented farinacea, taken in immoderate quantities, especially at a certain period of life, or in dyspeptic stomachs, may be the cause of disease; but all this seems to be exaggerated; for the morbid effects of

unfermented farinacea are, for the most part, very well suited to the human economy.

“ However considerable the use of fermented bread may be, the use of unfermented farinacea is still very great and considerable amongst almost every people of the earth. The whole people of Asia live upon unfermented rice; and I believe the Americans, before they became acquainted with the Europeans, employed, and for the most part still employ, their maize in the same condition. Even in Europe, the employment of unfermented bread, and of unfermented farinacea in other shapes, is still very considerable: and we are ready to maintain, that the morbid consequences of such diet are very seldom to be observed. In Scotland, nine-tenths of the lower class of people, and that is the greater part of the whole, live upon unfermented bread, and unfermented farinacea in other forms; and at the same time I am of opinion, that there are not a more healthy people any where to be found. In the course of fifty years that I have practised amongst them, I have had occasion to know this; and have hardly met with a disease of any consequence that I could impute to the use of unfermented farinacea. In this country (Scotland) our children have hardly any other food except their mother’s milk for the first five months of their life; but after that period, or perhaps sooner, oatmeal pottage, with cow’s milk, is gradually introduced as a part of their diet. After their being weaned, they are put upon this entirely; and the bad consequences of it, at either period, we have never perceived. From all these considerations, it will appear that a great deal too much has been said of the noxious effects of unfermented farinacea. It would surprise modern physicians to find, that Celcus (who, like other ancients, can hardly be in the wrong) should say, that unfermented was more wholesome than fermented bread. I am ready to allow

that he was in the wrong; but I am disposed to suspect that it happened from his observing, that the lower people, who lived on the unfermented, were generally more healthy than those of the better sort, who lived upon fermented bread."

These remarks, and the various quotations given by our author, both in favour and against fermented and unfermented bread, leave his readers at a loss which to use; but in order to assist those who may consult me, I will add a few plain remarks as to what appears to me adviseable in making choice of our bread. If wheaten or rye bread, it should always be fermented, because of the quantity of gluten it contains: were it not fermented it would be very indigestible, for the gluten would not be sufficiently divided, as is the case in the process of fermenting, and the powerful heat employed in baking, which not only divides and renders the gluten more soluble, but throws off the superfluous quantity of acid, thus preventing the bread running too rapidly into the acetous fermentation in the stomach. The unfermented bread, used in the northern parts of this country, is made of barley, oats or pease-meal. As these possess so small a quantity of gluten they will not ferment, neither is it necessary they should to render them soluble in the stomach; they contain much more nourishment than any equal quantity of wheaten flour, and are, consequently, better adapted as food for those who perform hard labour. In America, Asia, and Africa, and some parts of Europe, rice, Indian corn, pease, beans and barley are used in an unfermented state; notwithstanding the people enjoy as good health as those who eat fermented bread.

The Jewish Lawgiver appointed certain periods of the year for the whole of the inhabitants to live on unleavened bread, finding it a more salutary practice, as it gave tone to the stomach and the whole system. Although I have already stated, that if children were

brought up under such wise principles, they would have their natural powers, both of body and mind, much strengthened, I cannot help repeating it, and at the same time deplore the existance of so much disease, arising from the absence of common sense, that pervades our seminaries of learning, as may be deduced by the ready adoption of the principles of Cullen's work, which has been used as a monitor for the last fifty years.

I have given the above quotation from Cullen's work, to shew the absurdity of his mode of reasoning: what he states might have been given in two or three lines: for instance,—that some grains will not ferment and other grains will; that both are wholesome, and the various changes of them well adapted as food.

As to enter more minutely into the properties and use of the various articles in this work, would increase it to a larger size than is adviseable, more particularly as I could not do justice to each individual species, I intend publishing a separate work on diet.

I cannot help noticing in this part of the work, the common and cruel practice of adulterating bread with alum, as this article constipates the bowels, inflames the blood, and produces fever: it ought to be prohibited under severe penalties. In addition to alum, chalk, burnt bones, flour-spar and other noxious ingredients form portions of our daily aliment. Certainly such practices should have the first claim to the consideration of government.

In refering to the catalogue of vegetables given by Cullen, I cannot but present my readers with another extract: it is this,—that “ Beet is more tender, but less so than spinash, to which both this and the former (pompions, melons and cucumbers) have almost entirely given place. They are all of a watery, insipid taste, with little saccharine or mucilaginous quality, and therefore are of weak nutriment. On account of their little acidity and loose

texture, they are less flatulent than some of the other *olera*. They are said to be laxative, but as they have little acidity or sweetness, this quality cannot be remarkable. They are, however, acescent, and hence, if taken in considerable quantity, may prove so."

Had Dr. Cullen been alive to have gone to France, and had attempted to inculcate such notions into the mind of Buonaparte, when the Emperor well knew that the French were principally supplied with sugar obtained from the beet-root, I leave my readers to conjecture what answer would have been given to the Doctor. It is a lamentable truth, that many of his views of medical subjects, are equally inconsistent and at variance with truth.

Dried fruits should be used in moderation. Dates, figs, mellons, cabbage, cauliflower, sea-kale, Scotch kale, broccoli, turnips, radishes, water-cresses, American cress, mustard and garden cress, scurvy-grass and corn-sallad may be eaten in small quantities, when in season, by the most delicate patients: in short, patients cannot be said to be in a convalescent state unless they can use them without much inconvenience. The moderate use of them, both in a raw and cooked state, is of great importance when taken according to their natural class and order. All the species of the same genus may be used without inconvenience, but when combined with other classes and natural orders, they will pass into the most active fermentation, and will produce, in those who have weak stomachs, the most distressing complaints: for instance, cabbage and potatoes, if eaten at the same time, will produce flatulency to a very painful degree, particularly where the coats of the stomach have been injured by acrid food and poisonous drugs. The natural order, *siliquous*, including all the cabbage tribe, ought to be used by themselves; and the natural order, *papilionaceous*, including all the pea and bean tribe, may be taken with great advantage

to strengthen weak patients. A beginning should be made with green pease and beans, in small quantities, which should be increased as the stomach will bear them, likewise in their dried state in the winter. The next division of culinary vegetables is the exculent roots; these belong to the order *umbellatæ*, a very poisonous class in moist and watery situations; but when cultivated in dry soils, some of them become bland and nutritious. Every person being aware of this, ought to raise them on dry soils. The roots of this order are carrots, parsnips, skirrets, celery, parsley, angelica, anise, caraway, coriander, &c. Of these the celery is the most liable to do injury, unless it be cultivated on dry ground: if the ground has been manured with lime, it will make it still better. Nervous persons ought never to taste celery. The above roots should be boiled in two waters; when well boiled, the water should be pressed out of them, and then mashed with a little milk or cream. They are particularly wholesome for persons afflicted with cancer or scrofula, and for all who are subject to flatulency. The seeds are also excellent for that purpose.

The next order is *luridæ*, a very poisonous tribe. The root of the potatoe is the only vegetable of the species we make use of. It has been justly accused of producing typhus fever. Its poisonous properties are much increased by heat and moisture in their growing state; it ought to be cultivated on a new and dry soil; it should be boiled in two waters; but the best mode of preparing it is to reduce it to flour, in the way I have before mentioned.

The next is the order *composita*, which contains artichokes, Jerusalem artichokes, goat's-beard, viper-grass, lettuce, endive, succory and dandelion. Part of these when cooked, and part of them eaten raw, thoroughly blanched, are proper as food for all patients, where opiates are wanted.

The next natural order, *spathaceæ*, includes leeks,

onions and garlic, which are used as condiments with much advantage, where diuretics and sudorifics are wanted, particularly in hot weather and hot climates, when the kidneys are inactive. The asparagus, belonging to the same class, and natural order *sarmontacea*, is also diuretic, cleansing and aphrodisiac; and where there is a superfluous quantity of phosphoric and other acids contained in the body, it powerfully assists in discharging them by the urine.

The natural order *pomaceæ*, comprizing peaches, plums, apricots, nectarines, cherries, apples, pears, quinces, &c., ought never to be used until fully ripe, when they may be eaten raw or cooked, except in cases where patients are much affected with acidity:

The next subject of aliment is *animal food*; but as I cannot do sufficient justice to this important article of diet, I am obliged to defer my train of argument, until I can more fully and fairly shew the great advantage of vegetable over animal food, not only in the cure of the diseases in England, arising from the use of an excess of animal food, but also in preserving health afterwards. The first object that claims my attention in this place, is the food produced by animals. As *milk* is a connecting substance between animal and vegetable diet, I will notice it first, by stating, that to enter into any chemical analysis would be fruitless, for this reason—that as far as investigation and observation have enabled me, I have found the chemical properties of milk, in their various proportions, vary as much as the different food that is eaten by the animal: and further, that from what I have read and heard, nobody has satisfactorily established its component parts.

As an experiment to prove what I state, three cows may be taken and fed upon different vegetables of opposite virtues. The first should eat turnips, garlic and onions; the second, white clover, poa and ferroin grass; and the third, butter-cups, poppies and

spurge—the common food of English cattle. Can it be thought, even by the most ignorant, that the specific action of the different samples of milk, given by cows fed in that manner, would be the same on the human body? Those persons who would disseminate a doctrine to that effect, ought to be compelled to use the third cow's milk, as a punishment for their unbelief and cruelty. The same cause which Moses ascribed to the diseases of children, as occasioned by the corrupt milk of their mothers, has been particularly noticed by me, and was even confirmed in the following instance of a cure performed by me upon a child, that was sent from Hackney for the express purpose of proving what I had stated in one of my lectures,—that I would remove disorders in children by means of medicine received through the mother's milk. The little sufferer was about eight months old, and had an irruption in the face, known by the name of *porrigo*, accompanied with glandular obstructions, of a description far more aggravated than I had seen before. The mother was put on my plan of diet and medicine; and in two months the child was perfectly cured, and is now as healthy as any child of her age.

At the time I undertook the care of this child I saw its brother, who was in a frightful state, and apparently near death, with the same complaint, although he had been for two years under the most active medical treatment, without deriving the least benefit.

The above mode of treatment, which with me has proved successful in a variety of cases, shews the practicability of obtaining the desired end, and the propriety of adopting the practice, in order to raise up a more healthy race of men than exists at present.

In consumption, ulceration of the stomach and bowels, phagedenic, scrofulous, mercurial and other diseases, nothing is of more importance than to administer the milk of a goat, that has been properly

fed for the purpose. In various parts of North Carolina, I have witnessed some remarkable cures effected by thus conveying medicine and nourishment to patients, affected to such a degree with dropsy, as to be deemed incurable by the faculty. The goat was fed on the *pyrola umbellatæ*, and from a pint to three pints of the milk, for two to four months, were taken by the patient every day, with other appropriate diet. I never knew the plan to fail, even in cases of mercurial diseases: one of the most important effects of goat's milk is, its affinity for poisonous substances taken into the stomach, particularly if mixed with pease-meal, and taken in large quantities shortly after an emetic. If the poison is supposed to have reached the lower bowels, an injection of milk and castor-oil will powerfully assist to carry it off, and prove, as I have often witnessed, the means of saving many lives. The plan for steaming the food, as I have shewn in another part of this work, may be adopted with great advantage to the milk; and, if properly done, will contribute to increase the comforts of this country in a general point of view.

From a dissertation of Linnæus, we learn that experiments were made on various animals, in order to ascertain what plants were eaten and rejected by them. All the Swedish plants that could be collected together, were presented alternately to domestic animals; and it would appear that the goat lives on the greatest variety, and even on many that are poisonous: the cow selects the first succulent shoots of plants, and rejects the fructification, which latter is preferred by the goats; thus furnishing rules respecting the pasturage of different animals, and shewing that in a pasture that is apparently only adapted for a certain number of sheep, an equal number of goats may be introduced without debarring the sheep of any portion of their food or nourishment.

Rules for Cooking Milk.

The inhabitants of Lapland give to milk the consistency of cream, by putting the leaves of the *Pinguicula*, or butter-wort, into the pail, milking the cow upon the leaves, instantly straining the milk, and allowing it to stand two or three days to coagulate and acquire a degree of acidity. When thus prepared it is much esteemed, and answers the end for which the leaves were employed, for a spoonful of it will turn another quantity of milk as often as it is wanted. It is an excellent preparation for hot climates, being cooler and more easily digested than milk in its natural state.

The next article I have to treat of is *Cheese*. To attempt to give a definition of the various qualities made in England is impossible at present; but this much I must say, as to its demerits as an article of food, all persons with delicate stomachs ought to refrain from firy cheese, and leave it to the robust.

Butter is equally liable to variety. During the three summer months, its general quality is of a very poisonous nature, and will produce the most acrid fermentation, and of course inflammation of the stomach and viscera, severe bilious head-aches, bilious fevers, diseased livers, indigestion and its attendants, terminating very frequently in cancer, diseases of the nerves, particularly that formidable disorder tic-douloureux, which, from the most attentive inquiries and observations I have made, proceeds from eating butter and the fat of meat, the produce of cattle that have been fed on food, in which a great proportion of the butter-cup and other poisonous plants might be found, and aggravated by mercury and other drugs so frequently employed by the faculty.

The account which the late Dr. Fothergill gives of the effects of butter, I annex; and hope will produce

conviction upon the mind of every person who may read it: it is extracted from the sixth volume of medical observations and inquiries, and was inserted in the "Universal Magazine" for 1784, at the suggestion of one who thought the subject too interesting to be forgotten and lost to the public. After several valuable remarks on diet in general, the Doctor says, "From many incontestible proofs that butter in considerable quantities is injurious, it is less used in families. It is found by many to be very difficult of digestion, especially when toasted before the fire, or fried, as well as in sauces.

"Many people apparently robust, and whose organs of digestion are strong, often find themselves much disordered by large quantities of butter. Nothing more speedily and effectually gives the sick head-ache, and sometimes within a very few hours. After breakfast, if much toast and butter have been used, it begins with a singular kind of glimmering in the sight; objects swiftly changing their apparent position, surrounded with luminous angles, like those of a fortification. Giddiness comes on, head-ache and sickness. An emetic and warm water soon wash off the offending matter, and remove these disorders. These are circumstances that often happen to people who are inattentive to the quantity of butter they eat at breakfast, and which are very often attempted to be cured by very different remedies, and improper ones. A sudden giddiness, let it arise from what cause it may, and it arises oftener, I believe, from some disorder in the stomach than from all other causes put together, is a sufficient motive to call the surgeon, who must have a large share of disinterestedness and skill, not to be compelled to bleed the patient, sometimes under circumstances that do not admit of it with impunity.

"A moderate quantity of fresh butter, with bread exposed as little to the fire as possible, or not at all, but used cold, appears to me to be wholesome; it is

capable of becoming, with the other aliments, as soft and inoffensive chyle, perhaps, as any part of diet."

Although the Doctor has described the effects of butter, he was not aware of the true cause of those effects, as he thinks butter and bread may be eaten with safety. Had he observed the effects of good butter, the produce of the aftermeath in autumn, he might have seen that buttered toast and butter-sauce would not have injured the most delicate. An instance of this kind I experience on myself; whereas, the eighth of an ounce of the butter-cup butter will give me a bilious head-ache.

Salmon, Queen Anne's physician, who was a more accurate observer, points out the species of the butter-cup that produces the worst consequences, and every day's experience tends to strengthen and confirm my opinion, by the number of sufferers that apply to me for relief.

Whey differs, according as the milk may have been coagulated by rennet or by its own acescent properties. By the former, the coagulable part and a portion of oil going along with the whey, more purely separates them. When thus prepared, the whey contains much saccharine matter, is capable of promoting a vinous fermentation, and proves more purgative than milk, which gives out in the whey a great proportion of its ingredients. Whey as a beverage is excellent for invalids, and may be used in the form of gruel or porridge.

Goat's whey is more nourishing than any other, and is a valuable medicine in many complaints, particularly consumption and atrophy; and where there are weak digestive powers, whey is a bland and easily assimilated nourishment, for it readily passes off by the secretions, and soon changes the state of the fluids. Porridge made of whey is the best food that can be given to strengthen weakly children.

In *Butter-Milk* the coagulable part and the whey are more entirely separated than the oily part. The

coagulable part, which is broken down by the process of churning, makes it more digestible ; and as it contains much sugar, it is very nutritious, and being somewhat acescent, is more cooling to the system, and better suited to the inflammatory and alkalescent diathesis than milk. It is obvious it must be noxious, where refrigeration is hurtful.

One of the best methods of making butter, (of all that have been attempted in various countries, but more particularly in the vicinity of Edinburgh) is that of churning the evening and morning milk together. The butter made in this way is much superior to that made of cream.

Butter-milk is not only sweeter than the common milk, having the flavour of curdled milk, but is publicly sold in the streets of Edinburgh in the summer mornings, and is eagerly purchased and used by many of the rich, as a refrigerant drink, and by the poor to eat with their porridge or bread for breakfast. It is also a very healthy and cheap meal for children in the liquid form, as it strengthens the muscles more than any other substance, without inducing corpulency. From its general use among the poor in Ireland, who are chiefly brought up on it, and whose muscular strength is well known in London, as exerted in the most arduous labour, where strength is so much required, shews the superior nature of the milk. Another physical property it possesses is in neutralizing acrid poisons, as has been proved in its application and effect upon the skin of patients who are poisoned by the *rhus toxicodendron*: it is also useful for neutralizing the poison of *solanum*, and I have no doubt of it preventing, to a great extent, the noxious effects of bad potatoes in Ireland. The quality of butter-milk varies, according to the nature of the food that is eaten by the cattle.

Having made a few observations on milk, considered as an intermediate substance between animal and vegetable food, I will now treat of

Animal Food.

At present I will not enter into a minute investigation of animal food, so as to describe the great diversity of animals, for they differ in flavour, texture and quality as much as the constitutions of men who feed on them. The diversity is naturally caused by the soil, and the various qualities of the herbage they feed on. Hence, as Hippocrates observes, “a man may be regarded as a plant, partaking of the qualities of the soil on which he vegetates and grows: his strength of body and mind, his passions and propensities, will in a great measure be regulated accordingly.”

I am certain, that in our degenerate days, too much stress is laid on the pretended cultivation of intellect; and, as Burton truly observes, “we spend our days in unprofitable questions and disputations, intricate subtleties, about moon-shine in the water, leaving, in the mean time, those chiefest treasures of nature untouched, wherein the best medicines for all manner of diseases are to be found; and do not only neglect them ourselves, but hinder, condemn, forbid and scoff at others that are willing to inquire after them.”

The Deity has given power to man to ameliorate his condition, as may be truly seen by strict attention to the laws of nature. An attentive observer may soon perceive, that milk, butter and meat, of animals that feed on good herbage in high and dry soils, are the best; and that strong nourishment is the produce of those animals that feed on bottom land; but those that feed on a marshy or wet soil, produce more acrid food, even admitting that the herbage be of the bland and nutritious kind; but if it be composed in part of poisonous plants, the sheep become diseased and rotten; much more so than cattle, for they do not drink to the same degree, and

are therefore (particularly those that chew the cud) not likely to throw off the poison. Horses would be more liable to disease than cattle, were it not for their sagacity in selecting the wholesome from the poisonous herbage ; and very few would be exempt from the latter, which grows in all parts of England.

Can it be believed, that in our day, men, who pretend to be agriculturists, will use every means in their power to disease cattle, and to bring them into this great city for a show, overloaded with fat, although it is well known that over-fat animals are diseased and ought not to be eaten ?

My readers, no doubt, will be surprised to learn that a great portion of the mutton slaughtered in London last winter, was overloaded with fat, and their lungs in a state of decomposition—their livers much injured by insects, and their intestines in a state of ulceration, from eating poisonous herbs.

As the aphorism of Linnæus, on the locality of plants, cannot be too often repeated, I will again quote it : he says, “ A dry place renders plants sapid ; a succulent place, insipid ; and a watery place corrosive.” I hope no intelligent person will pretend to enforce his opinion in opposition to that of Linnæus, upon a question of so much importance to the well-being of mankind ; and founding my judgment upon what he has stated, confirmed by extensive observations and experience, I do most positively assert, and am prepared to prove, that the wet season is not the cause of the cattle being diseased, but the poisonous plants, whose power is much heightened and aggravated by the wet.

Were our low grounds drained and sown with wholesome herbage, there would be no diseased animals. In being thus earnest, I seek no other interest but that of the people ; and do now, on their behalf, entreat their rulers to put my opinions to the most extensive practical test, in order to prevent a famine taking place, that is now threatening us. As a

stronger evidence than that which my humble pen can give, I can only refer my readers to what has happened to the sheep during the last winter, what is passing this spring, and subjoin the following paragraph, taken from the “Hants Advertiser:”—

“One farmer, in the neighbourhood of Sherborne, has, within the last few weeks, lost nearly nine hundred sheep by the rot. The fear of purchasing unsound meat is so prevalent in families, that the demand for mutton has become extremely limited.”

My readers will plainly see how difficult it would be to give any thing like a correct statement of the animal substances sold in London, and their consequent effects upon the human body.

Patients ought not to use the fat of meat, since they will be so much exposed to its effects. The best food for those whose digestive powers have been injured by bad food and medicine, is venison, game, fowls, turkeys, &c.; but as I shall add to this work copious instructions upon the method of cooking for the sick and convalescent, I will enter upon the causes and effects of some of the most common diseases that have come under my own observations and medical treatment for the last twelve years.

Of Children.

The surest way to trace disease to its original source, is to endeavour to point out cause and effect.

Ignorance of the laws of nature is the stumbling-block that lays in the way of mankind; and when we find that art is trusted to in the management of children, error is sure to follow; whereas brutes, guided by instinct, never fail in rearing their progeny. It is true that domestic animals are exceptions to the general rule, and that they are equally susceptible of being diseased as erring man. There is scarcely any thing that engages public attention more than

that which is evident in all parts of England—the great mortality among the sheep and lambs, and the number of cows that part with their calves before their time. Were the number of the diseased animals that survive ascertained, it would in some degree assist in enabling us to trace the causes of the great increase of malady, both of parents and children.

It may be truly said that children are no sooner born than they become heirs to a fearful catalogue of disorders, occasioned, first, by imbibing the fruits of their parents' ignorance, vices and crimes; and secondly, by being brought up, like their parents, totally ignorant of the laws of nature. In this respect they are sunk below the brute creation, for all irrational beings, although guided by instinct, never err; but mankind, as they now appear upon the stage of nature, live by chance: if they happen to have been born of healthy parents, and the customs of the country where they live be somewhat agreeable to the laws of nature, so much the better for them; but unfortunately, a great number of children are born of parents who think it below their dignity to take care of them, and trust the important charge to a hireling. If we search nature throughout, we cannot find any thing equal to this. Were animals to bring up their young by proxy, they would share the same fate as the human species.

It is much regretted that more care is not bestowed in teaching the proper management of children, to those whom nature has designed to be mothers. This, instead of being made the principal, is seldom considered as a part of female education. A great number of mothers are as ignorant of the manner their children should be brought up as the infants themselves. Indeed, the most ignorant of the sex, are generally thought the most efficient nurses; hence, sensible people, it would appear, are the dupes of ignorance and superstition, and the nursing of chil-

dren, instead of being conducted by reason, is the result of whim and caprice.

Were the time that is generally devoted by females in acquiring trifling accomplishments employed in learning how to bring up children, how to dress them so as not to hurt, cramp, or confine their motions, how to feed them with wholesome and nourishing food, how to exercise their tender bodies, so as to promote their growth and strength : were these made the principal objects of female instruction, mankind would derive great advantages from them ; but while education comprises little more than what relates to dress, frivolity and public show, we have nothing to expect from the fair sex but ignorance, even in important things.

If mothers would consider their own importance, and lay it to heart, they would embrace every opportunity of improving themselves in the duties which they owe their infant offspring. It is their province, not only to form the body, but to give the mind its bias. They have it in their power to make man either healthy or valitudinary—useful in life or a burthen to society. What a difference there is between a reasonable man and an ignorant coxcomb ! Yet the mother may make either the one or the other, by the force of example or precept. She is not the only person interested in the management of the children ; the father should also exert himself for their welfare, and endeavour to promote their physical and moral improvement.

One of the principal sources of the diseases of children, is the unhealthy state of the parents ; but, as to animadvert on the vices and crimes of our forefathers does not form part of my plan, I shall only remark, that when disease is once riveted in the constitution, it is entailed on posterity. What diseases can be more dreadful, if transmitted to another generation, than cancer, scrofula, scurvy, leprosy and

gout? Persons afflicted with any malady, deemed incurable, ought not to marry: under the Jewish dispensation they were never allowed, unless they were deemed clean. A diseased woman may be fruitful, but her progeny can only be regarded as fit members for an hospital, particularly if the disease appears at the birth.

Diseases of Children.

One of the most frequent is the struma, or vulgaris of Linnæus. As this disorder has been better described by Mason Good than by any other medical writer that I have seen, I will subjoin his introductory remarks before I give my own opinion. He says, “The Greeks denominated this disease ΧΟΙΡΑΣ; the nosologists of recent times, *scrophula*; thus literally translating the Greek, and imparting *swine-evil*, *swine-swellings*, or morbid tumours to which swine are subject. Celsus employs *struma*, which was common in his own day, and has well described the complaint under this name, which is therefore selected on the present occasion. It is probably derived from στρώμα, ‘congestion,’ or coacervation,’ as of straw in a litter, feathers in a bed, or tumours in the body; in which last sense Cicero elegantly employs the term as a metaphor in the phrase, ‘*struma civitatis*,’ ‘the scrofula or king’s evil of the state.’ The medical dictionaries and glossaries concur in deriving struma from the Latin *struo*; but the terminating syllable of the noun should rather prove it to issue from a Greek source.

“Dr. Stoll endeavoured to make a distinction between scrophula and struma, by regarding the one as a local, and the other as a constitutional and hereditary disease; but although he has been followed by a few writers, as well in our own country as on the continent, it is a distinction which has been

generally relinquished, as neither useful nor founded in fact.

“ Other animals are subject to this disease besides man. It is, as already observed, from the frequency of its appearance among swine that the Greek name, as well as the more recent one of scrophula, is derived. Among horses we meet with it at least as often, when it is called farcy : under which modification it is propagable by transfusion of blood from the diseased horse, not only to other horses, but to asses also, as has been lately proved by Professor Coleman, at the Veterinary Institution. Sauvages, who has many species under the generic character, has two for the forms now referred to. The porcine species he denominates *scrophula chhalasis*, and the equine s. *farcimen*.

“ As it is not the intention of the present work to notice the diseases of other animals, otherwise than by an occasional glance, we shall proceed to a contemplation of the present genus under the single species of

“ *Struma Vulgaris*—*King's Evil*.

“ The strumous and mesenteric decline, in the present classification *atrophia strumosa*, is often introduced as a second species : but though nearly allied to the present genus, it has so much closer a connexion with all the subdivisions of the genus *marasmus*, and especially with that of *atrophia*, that the former is evidently its proper place, and we have accordingly treated of it under that genus. In Dr. Cullen's Synopsis, it is arranged under the genus *scrophula* ; and in deference to his authority it was allotted a like position in the first edition of the ‘ Nosology ’ of the present writer : but in the subsequent editions it will be found transferred to the position before us.”

After entering into a long and minute investigation

of the symptoms of the disorder, the Doctor adds, “ In the worst and severest stage of the disease, the entire system appears to be contaminated, hectic fever ensues, and sometimes tubercular phthisis, which gradually puts an end to the contest.

“ In attending to the cure we must not be unmindful of the principle we have endeavoured to establish, that scrofula is a disease of debility, principally affecting the lymphatic system, accompanied with diminished irritability. And it hence follows that our chief dependence must be upon a tonic and stimulant plan, so modified as to meet the patient’s age, idiosyncrasy, and manner of life.

“ How far an acrimonious principle may be generated, after the disease has become aggravated and general, it is difficult to say : but in its commencement, and while confined to the lymphatic glands, and indeed through the whole of its ordinary and milder course, induces diminished rather than exalted irritability, and consequently gives no proof of an acerating or acrimonious source. Yet such a source has been supposed even from its first appearance : and hence sedatives and narcotics have found a place among the most celebrated of its remedies : while, as the chemical character of the acrimony has been also pretended to be developed, and has been declared to be a specific acid, another class of remedies had recourse to has been the alkalies.

“ That the latter are often of considerable service ought, I think, freely to be admitted ; but we have assuredly no proof that they become beneficial as correctors of acidity. They are gentle stimulants, admirably adapted to the debilitated and indolent condition of the vascular system they are intended to excite : and hence, in whatever form they are given, have a chance of doing good. And it is to this principle we are perhaps to resolve all the advantage that has been stated by different writers, and in different ages of the world, to have resulted

from the use of burnt sponge, burnt cuttle-fish, shells of all kinds, burnt hartshorn, and even burnt secundines, which last were at one time in high request, and are to be found as a sovereign remedy in Schroeder's Pharmacopœa. All these have in our own day deservedly yielded to the carbonate of soda, or sub-carbonate of ammonia, which, in a more elegant and concentrated form, offer whatever virtues may be contained in the older medicines.

“ Lime-water and the muriate of baryte, which last was thought by Dr. Adair Crawford to be nearly a specific, if they have any pretensions whatever, can only derive them from the general principle of their being stimulants, and especially of the lymphatic system. And the same may be observed of petroselinum, sarsa, mezereon, balsam of sulphuro calamus aromaticus, and horse-raddish, all of which have had their votaries in their day.

“ Muriate of soda or common sea salt possesses a like character, and has undoubtedly been found of far more use in many cases. It has hence been employed very freely, both internally and externally. In the latter case very generally through the medium of the bibulous marine plants, which contain it in a larger proportion, and have been applied to the strumous tumours in the form of epithems; as seawrack (*fucus vesiculosus*), sea-tang (*alga marina*), and sea-oak (*quercus marina*.)

“ The mineral waters of every description, have in like manner been had recourse to, chalybeate, sulphureous and saline; and perhaps, as Dr. Cullen observes, with nearly a like reputation and success; though it is by no means improbable that some waters may prove a more remedial stimulant or alterant to some constitutions, and others to others. And we thus possess a more plausible reason for their being advantageous, than that offered by Dr. Cullen, namely—that ‘ if they are ever successful, it is the elementary water that is the chief part of the remedy,’

which he tells us in another place may be of use by washing out the lymphatic system.

“ Stimulant external applications, besides seawater, have also been tried, and undoubtedly been often found serviceable, as a long continued friction of the hand over the scrophulous protuberances, mercurial or ammoniacal plasters or the convenient form in the London Pharmacopœa, the aura of voltaism, or moderate shocks of electricity.

“ The means of this kind, however, to which we have recourse, whether external or internal, should always be gentle at first, however we may venture upon augmenting them afterwards. If we stimulate violently we shall do mischief rather than good, and add to the debility instead of diminishing it. Scrophula is a strictly chronic disease; it never has been and never can be cured rapidly; and whenever any beneficial influence has been produced upon it, it has always been, as in the case of alkalies and of mineral waters, by lenient means and patient perseverance.

“ But we have to increase the power as well as the irritability; and hence tonics seem to be as much demanded as stimulants, and have in fact been as generally made use of.

“ It is very singular that of this class of medicines the only one which Dr. Cullen has thought it worth while to notice, are bark and colt's-foot: of the first of these he speaks very doubtfully, while he seems to depend more on the second than on any other remedy whatever. This opinion he expresses in his *Practice of Physic*, published 1783; but in his *Materia Medica*, published six years afterwards, he gives it the same high character, and tells us that he was induced to try it in scrophulous cases upon the testimony and recommendation of Fuller. He employed both an expressed juice of the fresh leaves, and a decoction of the dry, but preferred the former, of which he gave ‘some ounces every day,’ and affirms that ‘in several instances it has occasioned the healing up

of scrophulous sores.' He admits, however, that neither of them were in some trials sufficiently effectual.

"The metallic salts have been more generally used, and have at least acquired a higher reputation; though, with the exception of calomel, I do not know any of them that can appeal to any decided testimonies in proof of their success; and even calomel may perhaps be regarded rather as an alterant or mild stimulant than as a tonic. Salivation has always done harm, and on this account also mercury in every form must be given in minute doses. Combined with some preparations of antimony, and particularly with the precipitated sulphuret, as in Plummer's pills, it is said to have been chiefly serviceable. But in my own practice, I have not found this medicine of any manifest service in the present disease.

"The acids have also been tried, but are of little or no avail. They who regard the scrophulous taint as consisting in an acid acrimony, are apt to lay hold of this fact in support of this hypothesis. A better reason for their inefficacy is perhaps to be found in their sedative property, which we had occasion to notice at some length when treating of phthisis.

"Upon the whole, however, the tonic class of medicines has thus far proved considerably less decisive and important in the treatment of scrophula than we might fairly have conjectured. Yet a tonic regimen of sea-air, sea-bathing, liberal exercise, and a diet somewhat generous, is of the highest consequence in promoting improvement, and ought by no means to be dispensed with. The Infirmary at Margate is on this account a noble institution, and cannot be too liberally supported.

"Of the specific benefit of narcotics, as hemlock, henbane, foxglove, solanum, asclepias, vincetoxicum, and many others, I have yet to be persuaded. They may possibly be of some use in quieting the irritation occasionally produced by congestion and mechanical pressure where the tumours are peculiarly

indurated and large; and in such cases may assist in softening and diminishing them: and they may perhaps operate in the same way where, in the later and more malignant stages of the disease, the secretion is become virulent, the open ulcers irritable, and a foundation is hereby laid for hectic fever: but I can conscientiously say, with Dr. Cullen, that they have often disappointed me, and have not seemed to dispose scrophulous ulcers to heal.

“ The local applications, like the internal remedies, should be slightly stimulant; and, where the tumours have broken, usually consist of digestive ointment, combined with the caustic metallic salts of mercury, zinc or copper; and of digestive lotions of a dilute solution of alum or nitrate of silver. These are well calculated to coincide with the general intention; but we must not expect a sound cure till the morbid impression is set at rest in the constitution, or utterly extirpated from it.”

With the preceding copious extract from Dr. Mason Good before me, on the general received opinions of medical men, and the Greeks and Romans, I am truly astonished that the cause of the disorder in swine was not ascertained before his time, and that he himself remained, to his death, ignorant of it. What, I would ask, can it arise from, but the acid and putrid food they make use of? And what must be the consequence to those that eat their flesh, but the same disorders? Can we, moreover, be astonished, that persons afflicted with such diseases are rarely or never cured, when the faculty not only allow, but even recommend them to eat pork?

In order to assist in investigating this subject, it will be well to examine into the method of feeding swine in London. It is customary to feed the greater part of them on putrid substances obtained from the dust-holes, and the refuse part of the carcasses of old and diseased horses. The meat when thus prepared

is known by butchers, under the name of knacker's pork.

I have frequently visited the places where the animals are fed, and have invariably found the stench of their food so strong, as not to be endured. Five thousand are annually fed in that way, and sold in the London market. The practice is not confined to the metropolis, for numbers of persons who obtain a living by feeding pigs, will not allow the food to be eaten until it becomes putrid, several tubs being kept for the purpose in which meal and greens are thrown.

It is impossible and inconsistent with the laws of nature. The advocates for eating pork may adduce sufficient evidence of its engrossing tendency, as is manifest in the peasantry of Hampshire, proverbially called Hampshire bolters : but as I have had such frequent opportunities of observing the filthy, or I would say, beastly disorders it generates, I cannot for a moment entertain the same opinions with such advocates.

Many Jews who have applied to me for advice, were surprised when I accused them of eating pork. The accusation arose from it being evident that the leprous affection, and in its various forms, could not have originated without the use of pork. The charge was not denied, and conviction appeared to have its full force, for confession shortly followed, and my surmises were confirmed.

The effects of pork upon the Jews are more active and fatal than upon other people : they are marked by the pork passing rapidly into the putrid fermentation in the stomach, and producing a bilious attack, after the leprous spots begin to appear.

I have never met with a case of leprosy, that could not be traced to the use of pork ; and the prevalence of scrophula, and other disorders, is no less surprising when such disgusting and loathsome food is so gene-

rally eaten. One half of the deaths in London may be attributed to the use of such food, vinegar, sour fruit, the various poisons and acrid substances that are given to alleviate and cure, and the common practice of overloading the stomach with food.

But authors say that horses are alike subject to the disorder. I will allow they are; but I never met with an instance of either horses or cattle being affected with leprosy, where it did not arise from eating spoiled or rotten food.

The consequences of acid and acrid substances on the constitution of men and animals are as follows: The acid, combined with lime, become hard in the glands and other parts of the body, forming what is called glandular disease of a scrophulous nature: acids destroy the red colour of the blood and contract the calibre of the blood-vessels, by which the circulation of the blood is much accelerated, and produces what Linnæus calls critical fever: acids will also form tubercles in the lungs, hence pulmonary consumption; tumours in the brain, and not unfrequently deprives mankind of reason. Acid and acrid substances, particularly butter and the fat of meat, produce the most dreadful of all disorders—the leucorrhœa or whites in women, which complaint, if providence in mercy do not prevent, will certainly sink the nation at no distant period. I have frequently made inquiries of medical men, as to their opinion of the extent of the disease. The general idea entertained by them is, that it exists now more than it ever did, or that half the women in London are afflicted with the disorder. The children born of such women will be more or less subject to scrophula. What forms a striking feature in the erroneous opinions of the day, is what Malthus and his adherents maintain respecting increase of population. The sentiment is certainly applicable to the brute and vegetable kingdoms, but the experience of many learned men, strengthened and confirmed by my own observation,

proves that women who live abstemiously upon a low diet, propagate their species more than those who live upon a nourishing and rich food.

Here is one cause of the many barren marriages that are so frequently heard of; but it is trifling compared with that which the disorder we have been treating of occasions.

At a meeting (where the chief magistrate of the city of London presided), which had for its object the adoption of some plan by which better servants could be obtained, I intended, had I known that such was convened, to have expressed my opinions as to the cause of the inferior order of that class of females. As I have elsewhere in this work stated sufficient for my readers to infer what causes I allude to, I shall not add any thing more: the picture that class of the community presents is only a part of the general corrupt state of society.

Medical treatment.—As to designate all scrophulous disorders, and the various diseases with which they are complicated, would only tend to perplex my readers, I will in this place confine myself to scrophula, consumption, and leucorrhœa, as they may be regarded as being produced by the same cause, and requiring the same medical treatment. That which I adopt is, by first giving the alterative, or alterative and purgative medicine, and the use of my vegetable medicated vapour-bath, properly prepared with herbs, to increase the action of the absorbent system: always taking as much care as possible, that the patient live on the diet recommended in the printed instructions at the end of this work. Under this treatment, with the use of the anti-acid or strengthening medicines, as may be necessary, I have found that the tumours will for the most part disperse or come to a suppuration, after they are poulticed and cleansed, and finally heal by applying suitable ointments; provided the patient has not been under the treatment mentioned by Mason Good. I have generally found the

disorder yield, and the patient wholly recover under my care.

The effect of mercury, when taken on an acid stomach, is easily detected in the variety of disorders it produces ; for instance, diseased bones invariably arise from the administration of that article, after it is converted into a corrosive poison, and is so fixed in the constitution as to baffle the best ordinary medical skill to remove it.

The Members of the Committee of the Bayswater Asylum for the cure of Scrofula and Glandular Diseases, were surprised at the deplorable and hopeless condition of the various cases that were shewn them for examination ; and expressed themselves in such a manner as argued that to expect a cure was “ hoping against hope ” in favor of the sufferers : notwithstanding, their Annual Report proves, that seventy out of every hundred were cured, and that the convalescent were in a fair way of doing well. The Report may be seen at my house, 14, Finsbury Place South.

Mason Good, after enumerating the long catalogue of the most virulent poisons that had been given to scrophulous patients, by himself and others, in hopes of alleviating or effecting a cure, and finding himself and Dr. Cullen mistaken, observes, “ I can conscientiously say, with Dr. Cullen, that they have often disappointed me, and have not seemed to dispose scrophulous ulcers to heal.” A poor confession for a new medical system-maker, and a medical historian to make ! and, because scrophulous ulcers were not disposed to heal, after the constitutions of their patients were highly charged with a long farrago of poisons. Let us seriously examine, for one moment, what common-sense says to all this ? Methinks I hear it say, that if a similar quantity had been given to a person in perfect health, who had a cut or bruise, neither would be disposed to heal so long as the acrid and corrosive poisons oozed through the sore,

which would be the case while any of the poison remained in the body.

As for myself, I feel grateful to Providence, that there is an abundance of remedies, of a wholesome and healing character, without any poison entering into their composition, which may be used as food or alterative medicine : in connexion with my Vapour-Bath, a proper diet and medical discipline, they have proved efficacious in many thousands of instances, as soon as the poison was expelled from the system. So far from the ulcers not being disposed to heal, they would most frequently be well before the morbid matter was discharged, which was afterwards absorbed and passed off by the natural secretions of the body. When thus cured, the part will not be affected again, unless the exciting cause be resorted to.

In all incipient cases of scrophula, where no poisonous drugs have been given, a perfect cure may be expected ; but when the bones are rotten, and the general health is destroyed with mercury and other poisonous drugs, a cure cannot reasonably be expected within a short time ; for it frequently happens, that the patient has not the means to defray the expenses of a protracted cure.

Cancer.

“ Scirrhus, livid tumour, intersected with firm, whitish, divergent bands, found chiefly in the secretory glands ; pains acute and lancinating ; often propagated to other parts ; terminating in a fetid and ichorous ulcer.

“ Of this genus there is but one known species : for the division into occult and open, or indolent and ulcerative, introduced by Hippocrates, and continued till the time of Boerhaave, is unnecessary in pathology, and incorrect in a nosological arrangement ; as

the distinctions it contemplates are nothing more than so many stages or modifications of the same disease in different habits, or affected by different concomitants. This species is what is generally described under the name of *Carcinus Vulgaris*—Common Cancer; and it is not necessary to alter the term.

“ The term *Carcinus* is Greek, and imports a crab; the disease being thus called from the cancriform or crab-like ramifications of the dark, distended veins of the cancerous tumour. The question is of some consequence, whether it be a constitutional or a local, whether an hereditary or merely an occasional disease. Much has been said, and well said, on both sides. Till of late years the disease was generally regarded as a constitutional affection, and will, for the most part, therefore, be found in the division of cachexies from Sauvage to Macbride, though Dr. Cullen has introduced it into his class locales: and since his time, many of the best writers of the present day, among whom are Dr. Baillie and Mr. Abernethy, concur in regarding it as local alone. When it was popular in the Linnæan school to resolve almost all diseases into the irritation of worms, grubs, or insects existing in different organs of the body, cancer was, by some theorists, supposed to depend upon a like cause: and the hypothesis has been since adopted by several writers in our own country, as Mr. Justamond, who ascribed it to the larves of a particular species of insects, and Dr. Adams, who referred it to hydatids. Vermicles or the larves of insects, have, at times, been found in the open ulcer of a cancer, as in the fetid discharge of many other malignant ulcers. These, as in other cases, have undoubtedly proceeded from eggs deposited in the sore as a nidus, though the worm or insect that has so deposited them has never been detected. Such appears to be the foundation of this hypothesis, which we have no authority for carrying

farther, and which is rarely advocated in the present day.

“ When Dr. Stoerck, of Vienna, published his work upon the successful exhibition of hemlock in cases of confirmed cancer, Dr. Akenside, who was at that time prescribing the corrosive sublimate in St. Thomas’s Hospital with, what he thought, a gratifying success, immediately exchanged it for the *conium* or *cicuta*, as it was then called. He tried it, upon a large scale, in every stage and modification of the disease, and at first with the most sanguine expectations. But his hopes gradually failed him as he advanced in the career of his experiments ; and he was compelled to make very great drawbacks upon Dr. Stoerck’s commendation of the medicine. He allows it, however, a certain degree of merit ; and his account is drawn up with a degree of candour which entitles it to the fullest confidence, and appears to deal out the real truth. In recent states of the disease, where there was no ulceration, or none of any depth, he asserts that it often produced a favourable termination, and gives numerous examples to this effect. But in inveterate cases, where the cancerous ulcer had made considerable progress, its benefit was very questionable : it operated often for a very few days like a charm, diminished the pains and improved the discharge : but suddenly it failed to do the slightest good any longer, unless the dose were very largely increased ; upon which a like beneficial effect followed ; but, unfortunately, of equally transient duration. The dose was, in many instances, again increased ; and continued to be so, till at length the symptoms produced by the *cicuta* were as mischievous as those of the cancer itself, and Dr. Akenside was compelled to abandon it.

“ Mr. Bell advises an early performance of the operation ; Mr. Pearson, that we should wait till the extent of the disease has fully unfolded itself, so that no morbid part may be left behind. Yet some parts

may be doubtful even at last, and wherever there is the least suspicion of this, they should unquestionably be removed, along with the more decided portion of the morbid structure. Even this remedy, however, can only apply to external organs. In all other instances, the practice is melancholy from the first. The die is cast almost, if not altogether, irrecoverably; and all we can hope to accomplish is to postpone the fatal result, to mitigate the sufferings of the day, and soften the harsh passage to the tomb."

I have given John Mason Good's pathological description of cancer; but, to add the various, absurd and contradictory opinions that have been given on the subject, would argue as little respect on my part for my readers, as the writers had for theirs, particularly when an attempt is made to point out the cause and effect of the complaint. In many instances one does not know whether to laugh or be sad at the opinions on that melancholy subject.

I cannot pass over the Doctor's observations on the Linnæan doctrines. He acknowledges that insects are found in cancer, and yet he seems doubtful of the truth of their being the exciting cause, and says the doctrine is seldom advocated in the present day. I am certain that the Linnæan school was as far superior in intellectual light to the schools of the present day, as the light of the sun is to that of the stars.

As insects, in numerous instances, have produced the most terrible diseases, there can be no good reason given for their not causing the nucleus of cancer.

Millions of seeds, as well as the animalcula of insects eaten by cattle, after they have passed through the milk-vessels of cows, may be found in butter and cheese. They are of course in a confined dormant state, and only require heat and moisture to start them into existence. I have found the butter and cheese vary in different countries, according to the various substances and plants the cattle made use of.

I will not at present say, whether cancer is local, constitutional or produced from ignorance's hobby-horse, idiosyncrasy ; or, I should say, I will not *argue* whether such is the cause or disposition of cancer ; but, to come to the point at once, I do assert, that it is produced by the *Ranunculus* or butter-cup, that is eaten by the cattle and sheep ; or the oil of that poisonous plant, forming for the most part the butter and the fat of meat. There are other acrid plants that might excite the disorder ; but as they are so scarce in our fields, compared with the butter-cup, they cannot do the same injury. I am well convinced of this, owing to an experiment made by a young gentleman in 1817. A blister that was drawn on his leg, by applying a portion of the plant, terminated in cancer—the particulars of which may be seen at page 153 of this work. Since that time, I have never lost sight of the effects of that most destructive plant upon the human frame.

I challenge any man to produce a case of cancer, where the butter-cup does not grow.

In a number of cases, which have come under my treatment, in a scirrhus state, the tumours in the breast were from the size of a walnut to that of a coffee-cup, and some were the size of, and form of a common tea-saucer. I have not only succeeded in dispersing these, but many others in the axillary glands. The individuals are now in perfect health ; but if they were to eat the fat of butter-cup meat and butter, the disorder would be excited again. A circumstance has happened within a few days, which furnishes sufficient evidence that one of the patients is sensible of the effect of butter on the system. A young woman, who, some time ago, had a cancer in her breast, but who is now in good health, will try the experiment upon herself, before a respectable body of disinterested men, to prove what I have stated. She will readily submit to the trial, if required, as she is confident that I can restore her

again ; and that in doing so, she might confer a great benefit on her fellow-creatures. It is desirable that the trial be made.

I can assure the public, that such butter and meat will keep up visceral inflammation on the constitution, more certainly than any substance I know ; and contribute, when taken with acids and acrid food, to keep scrophulous ulcerations in a constant state of irritability and discharge. When it is freely eaten, by people of a delicate constitution, it affects the nerves to an alarming degree, and not unfrequently deprives mankind of reason. A great number of people, when they arrive in London from the East and West Indies, the United States, or other countries, and use our butter in the months of May, June and July, are affected in the mouth and throat to such a degree, as to produce ulceration, and frequently bilious fever. There are many thousands in London, who dare not taste it.

From the great increase of the butter-cup in our fields, our population will soon be thinned, unless the fields are cleared of it and other poisonous plants : this, I hope, will be attended to by our landlords and farmers.

I wish the Government would allow me a Committee to investigate these allegations : if found true, I desire no other reward than the merit of calling the attention of the country to the subject, and giving employ to the vast number of distressed poor that are now without work.

I have no doubt but among many sophistical arguments or objections that will be raised to my views, one will be, that cattle will not eat such plants ; but what will be said, when, upon investigation, it be found that in the month of May, the cattle cannot place their mouths upon any spot of grass without coming in contact with, and, from necessity, be compelled to eat the butter-cup ? Some quibblers will ask, Why does it not kill the animals ? That it cer-

tainly does, to an awful extent, is too well known, as I have shewn in another part of this work. Other persons will say, Well, but Sir, how is it the sheep did not die in wet weather in former years, when the butter-cup was found in our fields? The answer is simple:—Because the plant now is much more common; and an extra quantity of rain invariably heightens the poisonous powers of plants. To those who after these remarks are faithless, I would recommend a blister (of the fresh butter-cup gathered in the month of May) made and applied in the following manner:—take two ounces of the plant and an ounce of yellow butter; pound them together; spread on linen or leather, and apply between the shoulders: to remain on the same time as an ordinary blister. I will venture to say, that the effects of such an application will do more for unbelievers than all that I have written upon the subject.

It now becomes a duty in me, to inform those who are so unfortunate as to have cancerous tumours in the breast and other parts of the body, that if they apply to me in time, they may generally expect a cure; but if the disorder be allowed to inflame and suppurate, or the integuments to be destroyed, there is little hope of recovery. It is not surprising that the faculty will not believe, that cancer of the breast and womb can be cured after it suppurates; for this reason, that it is so closely connected with the heart and lungs and other vital parts.

At one of my Vapour-Bath Establishments in America, I gave the medical gentlemen a list of plants that were never made use of by any medical adviser. Of the number, one was found a specific for the cure of cancer in the face. The plant, and a description of the case, were sent to me; and upon trial, I have found the plant beneficial in a number of open cancerous cases, in an incipient stage. Whether the disorder will return, I am not able to say, but have reason to hope it will not: should it not,

the discovery will prove one of the best ever made in the history of medicine.

The first case on record, is a gentleman of seventy years of age. The cancer began in his lip, and had corroded half his cheek ; it discharged an ichorous sanious matter of an intollerable smell. Every remedy had been tried by a number of medical men without the least success, until the plant in question was given. As soon as sufficient evidence of its specific virtues can be produced, it will be made public for the benefit of mankind.

Leucorrhæa—Whites,—is much aggravated by the same causes that aggravate the diseases already considered. Good butter, in this disorder, would contribute to effect a cure. There are few complaints that have sooner yielded under my treatment than this. I have had patients so afflicted with it, as to be confined to the sofa or bed for months and years, and could not move without being assisted. The cures have been so effectual, that, in many instances, the patients have become mothers of several children.

Hepatitis—Liver Complaints.—I believe there are few in the profession, who have had more experience in the treatment of this disorder, for the last twelve years, than myself. Many cases of the most virulent description, from the East and West Indies, the Royal Artillery (than which there are none more obstinate and severe), have been perfectly cured, even after the most successful practitioners had failed to give relief, which is invariably attained by my Vapour-Bath. In fact, torpid and diseased livers ; diseased stomachs and intestines, are the sources of more than half the disorders that afflict mankind.

Dyspepsia — Indigestion.—The appetite depraved and fastidious ; the food digested with difficulty, and habitual costiveness, are the most prominent symptoms of the disorder, giving rise to nearly four-fifths of the disorders that afflict the human race.

I have invariably found dyspeptic patients teasing

themselves about what is good and agreeable to their appetite ; but what appetite is good and agreeable to them, forms no part of the inquiry : hence, after meals, they are affected with squeamishness, frequent vomiting, distention of the stomach, eructations of various kinds, heart-burn, pain in the stomach and bowels, which are inflated with various gasses, caused by the active acid or putrid fermentation of the food : in many instances the blood-vessels are distended with the noxious gas, which produces the most violent head-aches, and frequently severe spasms ; excessive languor, palpitation of the heart, debility, and extreme nervous irritability.

The above disorders are all aggravated, if not created, by dyspepsia. As to enumerate the various maladies and combinations of diseases it occasions, would alone fill a volume, I shall not at present take further notice of them ; but, to give my readers an idea of the success of my treatment of that disorder, I will annex four cases in which I was successful, under most aggravated circumstances, as the patients were severally affected with the complaint to an alarming degree. The first was a gentleman of fortune, about fifty-eight years of age : he had been troubled with the disorder for a number of years ; had not had a natural motion for twenty years ; was obliged to take very powerful purgatives, in large quantities ; and has had sometimes eight, and, in many instances, ten doses of medicines in him at once. When these began to act, they would naturally bring on the most violent relaxation, which several times was likely to prove fatal, had he not had recourse to powerful doses of laudanum. The relief he obtained was but temporary, for he soon relapsed into his former state ; and, in hopes that a change of air and scene would do him good, he travelled through France, Italy and Germany ; had the first medical advice in those countries, but to no use.

When he applied to me, he was ghastly, thin and of a copper colour. From the violence of the disease, the stomach and bowels were in a state of ulceration. He took a course of my alterative medicine and vapour-baths, and paid strict attention to the prescribed rules of diet. By this treatment he completely regained his health in twelve months, and his bowels were perfectly regular without the aid of medicine.

The second individual was a ship-builder, sixty years of age, and who, for thirty years previous to his consulting me, had not kept a meal of victuals in his stomach for more than two hours at a time. His flesh was dry, without the appearance of moisture or a particle of hue; was habitually costive, and appeared to pass no bile, even when he was relieved by powerful doses of medicine. After the same plan had been adopted with him as with the preceding gentleman, the liver began to act freely, the bowels became regular, and he kept the food on his stomach. The particulars of this case appeared in the *World* newspaper, for the benefit of mankind.

The subject of the third case was a lady, who had been confined to the sofa for upwards of two years. She was very costive; was affected with spasms, hysteric fits, extreme debility and nervous irritability to such a degree, as to require to be put in bed. After using the baths and taking the medicines, she regained the due action of her liver, became regular in her bowels, and rapidly recovered. She is since married, and enjoys excellent health.

The fourth, and last individual, had been confined to her bed for three years, severely afflicted with all the usual symptoms of dyspepsia. She was reduced to such a state of debility, that merely moving her would make her faint away. Although I thought she was dead, and could only tell from the pulsation of her heart that life was not extinct, when she was brought to my establishment, I put her into the bath,

and in five minutes found that her pulse began to vibrate, and in fifteen minutes that she began to recover. She followed up the treatment for twelve months, and is now in excellent health.

I will not further take up the time of the reader in detailed accounts of the various diseases that have been treated and cured by me, but will give a catalogue of their names, as arranged by medical authors. To a number of them I will simply attach the primary substances that causes them, as in the following alphabetical order.

Diseases and their principal Predisposing Causes.

- Abscesses*.—Derived from scrophula, cancer, and phagedenic disease, &c.
- Acidity*.—Vinegar, acid fruits, and vegetables in a crude state.
- Anasarca*.—Acrid substances and blood-letting.
- Asthma*.—Acrid substances, bad butter, and a cold humid atmosphere.
- Barrenness*.—Acrid and acid food, particularly butter-cup butter, producing inflammation of the kidneys and adjacent parts.
- Blindness*.—Scrophula, poisonous food and medicine.
- Blood, Spitting of*.—Acrid substances which disease the blood-vessels, particularly the butter-cup, poppy and mercury.
- Bloody Flux*.—Acrid fruit, mercury, putrid vegetables, and animal substances.
- Brain, Inflammation of the*.—Salt, acid, acrid and narcotic substances, taken into the circulation.
- Carbuncle*.—The substances which occasion cancer.
- Chilblains*.—Salt, acid substances, and frost.
- Cholera Morbus*.—Unripe acrid fruits and rice, passing into the putrefactive fermentation in the stomach and bowels.
- Chicken Pox*.—Poisonous virus contained in the mother's milk, as also the milk of the cattle.
- Cold and Cough*.—Acrid food, salt bad butter, and fat; getting wet, exposure to a current of cold air, and damp beds. The above elements acting upon and causing the mucous membrane to inflame with a discharge of ichor and mucus.
- Cow Pox*.—The butter-cup virus oozing through the cow's teats.

Crooked Spine.—Tonics given upon an acid stomach, producing muscular contraction.

Cramp.—Salt, acid and acrid substances, and particularly mercury.

Croup.—Acid and acrid substances, called into action in the windpipe by the ingress of humid air.

Deafness.—By using mercury upon an acid or acrid stomach, and washing the head with cold water while under its influence; or malformation; and excess in the use of salt.

Diabetes.—By crudities, acrids, unwholesome vegetables, and excessive use of mercury.

Dropsy.—A scrophulous habit of body, blood-letting, indigestion, inactive kidneys, and suppressed perspiration.

Epilepsy.—Acrid, narcotic and corrosive substances, and taking mercury upon an acrid stomach.

Fainting Fits.—Acrid watery food, pressure on the vital organs, and extreme debility.

Flatulency.—Disease of the mucous membrane, stomach and intestines, produced by acrid and putrid ferments, causing inflammation and corrosion of the absorbent system.

Fevers.

Bilious.—Bad butter, the fat of meat, and other acrid substances.

Intermittent.—Putrid vegetable and animal substances, contained in marshy or argillaceous water, and used for drink and cooking.

Miliary.—Poisonous substances contained in the milk, butter, and the fat of meat, excited by hot liquids and regimen.

Putrid.—Putrid fermentation, produced by the use of putrid waters used as drink, and for cooking in hot climates, and a deficiency of electricity in the atmosphere, and unsound animal and vegetable substances.

Remittent.—Ulceration in the stomach and intestines caused by bad butter, the fat of meat, acrid substances, and bad water.

Scarlet.—The poisons received through the mother's milk.

Typhus.—Potatoes and other acrid substances, particularly in wet seasons.

Yellow.—Putrid water and food, and a deficiency of electricity in the atmosphere.

Gangrene.—Acrid and corrosive poisons, and putrid ferments in the stomach, from the use of animal food.

Gravel and Stone.—Vinegar and acid food combined with lime, passing through and forming calculi in the glands and other parts of the body.

Green Sickness.—Acrid and unripe fruits, butter-cup butter.

Gout (Common).—Grapes made into wine.

Idem (Chalky).—Currants eaten or made into wine.

Idem (Rheumatic).—Wine, salt, bad butter, and cold damp.

Hæmoptysis.—Acrid substances, particularly the poppy and butter-cup.

Hæmorrhage.—Acrid substances, particularly poppies, butter-cups, and the juices of lactescent vegetables.

Hooping Cough.—Disease of the mucous membrane, produced from acrid substances. Known by a spasmodic or convulsive cough.

Hypochondriasis.—From indigestion and the same causes that produce it.

Hysterics.—Indigestion or acrid and corrosive food, particularly that poisonous plant, the *ranunculus illyricus*.

Inflammation

Of the Articular.

Bladder.
Bowels.
Edematous.
Erysipelatous.
Eyes.
Gangrenous.
Heart.
Iris.
Kidneys.
Larynx.
Liver.
Lungs.
Muscles.
Nerves.
Pleura.
Spleen.
Stomach.
Testicles.
Throat.
Vesicular.
Womb.

If mankind would live agreeably to the laws of nature, there would be no such thing as inflammation, except that arising from bruises, burns, and accidental circumstances, not connected with aliment, and which would be sooner healed by applying appropriate remedies; but it is not so, neither can it be otherwise while we live upon salt, acid, acrid, putrid, corrosive and narcotic poisons, which are taken into the system through the food and medicine.

Insanity.—Mercury, given on an acrid stomach, butter-cup butter, the fat of meat, and the consequences of using cold water, when under the influence of mercury, and of uniting all three, thus heightening the power of mercury into a corrosive poison.

Itch.—By an insect the *acarus sero* of Linnæus.

Leprosy.—The use of pork fed on putrid animal and vegetable substances.

Lumbago.—Salt, acid and acrid substances, diseasing the kidneys; and exposure to cold.

Measles.—The poisonous virus received through the mother's milk, and the milk of cattle.

Mortification.—From the immoderate use of bad spirits, and the food passing into the putrefactive fermentation in the stomach.

Mildew.—The ergot or spurred rye.

Nervous Disorders.—Immoderate use of tea, adulterated bread, and butter-cup butter, and the use of mercury.

Nettle Rash.—Acidity in the stomach.

Nightmare.—Fulness of blood, bad pork, and acrid substances.

Ophthalmia (Common).—Acids, vinous liquors, acidity in the stomach, and long exposure to strong light and cold air.

Ditto (Pirulent).—Scrophula.

Ophthalmia (Egyptian).—Animalcula in spoiled lemon-juice, putrid salt provisions, and mercury.

Palpitation.—Acrid substances, particularly the properties of poppies conveyed through butter and the fat of meat, or in the form of opium; and the use of mercury.

Piles.—Acrid and corrosive substances, more particularly those contained in resinous plants, such as the aloe, &c.

Pleurisy.—Acids, new adulterated spirits, and salt, producing inflammation by inhaling cold and moisture.

Quinsy.—Salt, acrid substances and butter. The malignant quinsy which causes ulceration is from the use of the last article, and the ingress of cold air, which stimulates and makes the tonsils to enlarge and inflame.

Rheumatism (Common).—Acid and salt, and exposure to cold.

Ditto (Mercurial).—Mercury, and washing with cold water while under its influence.

Ringworm.—Insects.

Saint Vitus's Dance.—An acrid stomach, and the constitution being charged with mercury.

Sciatica.—Acids, mercury, and butter-cup butter, affecting the nerves; and new adulterated spirits.

Scurvy.—The excessive use of salt.

Small Pox.—Not known to the Greeks and Romans, nor in America until it was introduced by poisonous weeds and cattle, taken from Europe. Caused by animalcula and acrid poisons received through the milk of cattle, and producing the disorder.

Strangury.—Butter-cups, cantharides, and other acrid substances.

Suppression of the Menses.—Powerful tonics given on an acrid stomach, and taking cold.

Vomiting.—Indigestion and poisonous substances taken into the stomach.

Ditto of Blood.—Putrid ferments, cancer and inflammation.

Water on the Brain in Children.—Corrupt state of the mother's milk, producing inflammation in the brain, which causes the secretion of the lymph.

White Swelling.—Scrophula, causing an enlargement and caries of the joint.

Having already given a list of the diseases which have been successfully treated under my new medical discipline, with the assistance of my patent medicated vegetable vapour-bath, and the alterative medicines, and likewise mentioned the various substances which were the principal exciting causes of those diseases; I now beg leave to mention, that it is my intention

at some future period to change the names of the diseases, when I shall have more clearly ascertained the specific action of such substances as I have not yet fully satisfied my mind upon. As I think that every disease ought to be named from the plant or other substance which is the principal exciting cause of such disease, and that the human race might be thus aware of the evil consequences of using such plants or substances. Such a classification might resemble, in some degree, the following, viz. :—

The Mercurial Disease.	The Fool's Parsley Disease.
The Belladonna ditto.	The Fox Glove ditto.
The Stramonium ditto.	The Nux Vomica ditto.
The Tobacco ditto.	The Quassia ditto.
The Cicuta ditto.	The Opium ditto.
The Butter-cup ditto.	The Hellebore ditto.
The Colchicum ditto.	The Salt ditto.
The Colycinth ditto.	The Mineral Acid ditto.
The Pork or Hog ditto.	The Acrid ditto.
The Vinegar ditto.	The Putrid ditto.

Were a correct catalogue made out of these, together with their specific action on the human body, either singly or in combination with other substances, and also of the numerous diseases which they produce, what a benefit it would be to the human race; as they would then be aware of the evils, and would consequently avoid their employment. The nomenclatures of the names of diseases, as they now stand, however, afford no such assistance to the human mind, that a more clear and definite description of the causes which produce so many diseases, and so much misery to mankind, would do. Such a work is most earnestly to be desired, and I humbly hope and most fervently pray, that the Almighty in his infinite mercy may open the eyes of our understanding, that we may behold the wonders of his laws, and be enabled to observe them carefully unto the end.

COOKERY FOR THE SICK.

THE following pages contain cookery for the sick; it being of more consequence to support those whose bad appetite will not allow them to take the necessary nourishment, than to stimulate that of persons in health.

It may not be unnecessary to advise that a choice be made of the things most likely to agree with the patient; that a change be provided; that some one at least be always ready; that not too much of those be made at once which are not likely to keep, as invalids require variety; and that they should succeed each other in different forms and flavours.

When articles are not wanted for immediate use, they may be kept in a state of perfect preservation by putting them, when boiling hot, into stone jars, and corking them tight with the best corks, and a piece of bladder over them, to exclude the action of the air: the jars should hold the quantity that may be required for present use; say, from a pint to three gallons.

It must be observed, that when the patient's pulse is above eighty, no wine should be added to the mixtures; and if any thing be required, a little brandy, to slightly flavour them, will answer every purpose. When the pulse is low, wine is very proper, in the quantities recommended. No vinegar to be employed, as lemon or lime juice is preferable.

A clear Broth that will keep long.

Put the mouse round of beef, a knuckle-bone of veal, and a few shanks of mutton into a deep pan, and cover close with a dish or coarse crust: bake till the beef is done enough for eating, with only as much water as will cover. When to be used, give what flavour may be approved.

A quick made Broth.

Take a bone or two of a neck or loin of mutton, take off the fat and skin, set it on the fire in a small tin saucepan that has a cover, with three quarters of a pint of water, the meat being first beaten and cut in thin bits; put a bit of thyme and parsley, and if approved, a slice of onion. Let it boil very quick, skim it nicely; take off the cover if likely to be too weak, else cover it. Half an hour is sufficient for the whole process.

A very Supporting Broth against any kind of Weakness.

Boil two pounds of loin of mutton, with a very large handful of sweet herbs, in two quarts of water, to be boiled to one; take off part

of the fat. Any roots may be added. Take half a pint three or four times a day.

A very nourishing Veal Broth.

Put the knuckle of a leg or shoulder of veal, with very little meat to it, an old fowl, and four shank-bones of mutton extremely well soaked and bruised, three blades of mace, ten peppercorns, an onion, a large bit of bread, and three quarts of water, into a stew-pot that covers close, and simmer in the slowest manner after it has boiled up and been skimmed; or bake it; strain and take off the fat; salt as wanted. It will require four hours.

Broth of Beef, Mutton and Veal.

Put two pounds of lean beef, one pound of scrag of veal, one pound of scrag of mutton, three ounces of pearl-barley, sweet herbs and ten pepper-corns, into a nice tin sauce-pan, with seven quarts of water; to simmer to three or four quarts, and clear from the fat when cold. Add one onion if approved, or the white part of leeks.—Soup and broth, made of different meats, are more supporting, as well as better flavoured. To remove the fat, take it off when cold as clean as possible; and if there be still any remaining, lay a bit of clean blotting or cap paper on the broth when in the basin, and it will take up every particle.

Calves' Feet Broth.

Boil two feet in three quarts of water to half; strain and set it by; when to be used, take off the fat, put a large teacupful of the jelly into a sucepan with half a glass of sweet wine, a little sugar and nutmeg, and heat it till it be ready to boil, then take a little of it and beat by degrees to the yolk of an egg, and adding a bit of butter the size of a nutmeg, stir it altogether, but don't let it boil: grate a bit of fresh lemon-peel into it.

Another.—Boil two calves' feet, two ounces of veal and two of beef, the bottom of a small loaf, two or three blades of mace, half a nutmeg sliced, and a little salt, in three quarts of water to three pints; strain, and take off the fat.

Chicken Broth.

Put the body and legs of the fowl, after taking off the skin and rump, into the water it was boiled in, with one blade of mace, one slice of onion, and ten white pepper-corns. Simmer till the broth be of a pleasant flavour: if not water enough, add a little. Beat a quarter of an ounce of sweet almonds with a teaspoonful of water fine, boil it in the broth; strain; and when cool, remove the fat.

Another.—Dress a fowl; wash it in boiling water with a portion of salt; take eight quarts of water, and four or six ounces of pearl-barley; boil it an hour and a half; put in the fowl and boil it, with the addition of the white of leeks and parsley. When the fowl is sufficiently done, add a pint of sweet milk; let it just come to the boiling point;

take the soup off the fire; have the fowl covered with a small quantity of good butter and parsley, with a few pieces of lemon-peel: a little pepper and salt or aromatics may be added.

Eel Broth.

Clean half a pound of small eels, and set them on with three pints of water, some parsley, one slice of onion, a few peppercorns; let them simmer till the eels are broken, and the broth good; add salt and strain it off. The above should make three half-pints of broth.

Beef Tea.

Cut a pound of fleshy beef in thin slices; simmer with a quart of water twenty minutes, after it has once boiled and been skimmed; season, if approved, with a small portion of salt.

Shank Jelly.

Soak twelve shanks of mutton four hours, then brush and scour them very clean; lay them in a saucepan with three blades of mace, an onion, twenty Jamaica and thirty or forty black peppers, a bunch of sweet herbs, and a crust of bread made very brown by toasting. Pour three quarts of water to them, and set them on a hot hearth, close covered; let them simmer as gently as possible for five hours, then strain it off, and put it in a cold place.

This may have the addition of a pound of beef, if approved, for flavour. It is a remarkable good thing for people who are weak.

Arrow-Root Jelly,

If genuine, is very nourishing, especially for weak bowels. Put into a saucepan half a pint of water, a glass of sherry, or a spoonful of brandy, grated nutmeg and fine sugar; boil once up, then mix it by degrees into a desert spoonful of arrow-root, previously rubbed smooth with two spoonsful of cold water; then return the whole into the saucepan; stir and boil it three minutes.

Tapioca Jelly.

Choose the large sort, pour cold water on to wash it two or three times, then soak it in fresh water five or six hours, and simmer it in the same until it become quite clear; then put lemon-juice, wine and sugar. The peel should have been boiled in it. It thickens very much.

An Excellent Jelly.

Take rice, sago, pearl-barley, hartshorn shavings, each an ounce; simmer with three pints of water to one, and strain it. When cold it will be a jelly, of which give, dissolved in wine, milk, or broth, in change with other nourishment.

Panada made in Five Minutes.

Set a little water on the fire with a glass of white wine, some sugar, and a scrape of nutmeg and lemon-peel; meanwhile grate some crumbs of bread. The moment the mixture boils up, keeping it still on the fire, put the crumbs in and let it boil as fast as it can. When at a proper thickness just to drink, take it off.

Another.—Make as above, but instead of a glass of wine put in a tea-spoonful of rum, and a bit of butter; sugar as above. This is a very pleasant food.

Another.—Put to the water a bit of lemon-peel, mix the crumbs in, and when nearly boiled enough, put some lemon or orange syrup. Observe to boil all the ingredients, for if any be added after, the panada will break and not jelly.

Chicken Panada.

Boil it till about three parts ready in a quart of water, take off the skin, cut the white meat off when cold, and put into a marble mortar: pound it to a paste with a little of the water it was boiled in, season with a little salt, a grate of nutmeg, and the least bit of lemon-peel. Boil gently for a few minutes to the consistency you like; it should be such as you can drink, though tolerably thick. This conveys great nourishment in small compass.

Sippets, when the Stomach will not receive Meat.

On an extreme hot plate put two or three sippets of bread, and pour over them some gravy from beef, mutton or veal, if there be no butter in the dish. Sprinkle a little salt over.

Eggs.

An egg broken into a cup of tea, or beaten and mixed with a basin of milk, makes a breakfast more supporting than tea solely.

An egg divided, and the yolk and white beaten separately, then mixed with a glass of wine, will afford two very wholesome draughts, and prove lighter than when taken together.

Eggs very little boiled or poached, taken in small quantity, convey much nourishment: the yolk only, when dressed, should be eaten by invalids.

A Great Restorative.

Bake two calves' feet in two pints of water, and the same quantity of new milk, in a jar close covered three hours and a half. When cold remove the fat.

Give a large tea-cup full the last and first thing. Whatever flavour is approved, give it by baking in it lemon-peel, cinnamon or mace. Add sugar afterwards.

Another.—Simmer six sheeps trotters, two blades of mace, a little cinnamon, lemon-peel, a few hartshorn shavings, and a little isinglass, in two quarts of water to one: when cold take off the fat, and give near half a pint twice a day, warming it with a little new milk.

Another.—Boil one ounce of isinglass shavings, forty Jamaica peppers, and a bit of brown crust of bread, in a quart of water to a pint, and strain it. This makes a pleasant jelly to keep in the house, of which a large spoonful may be taken in wine and water, milk, tea, soup, or any way.

Another, a very pleasant draught.—Boil a quarter of an ounce of isinglass shavings, with a pint of new milk to half; add a bit of sugar, and for change a bitter almond.

Give this at bed-time, not too warm.

Caudle.

Make a fine smooth gruel; strain it when boiled well; stir it at times till cold. When to be used, add sugar, wine and lemon-peel, with nutmeg. Some persons like a spoonful of brandy besides the wine, others like lemon juice.

Another.—Boil up half a pint of fine gruel, with a bit of butter the size of a large nutmeg, a large spoonful of brandy, the same of white wine, a bit of sugar, a bit of lemon-peel and nutmeg.

Another.—Into a pint of fine gruel, not thick, put while it is boiling hot, the yolk of an egg beaten with sugar, and mixed with a large spoonful of cold water, a glass of wine and nutmeg. Mix by degrees. It is very agreeable and nourishing. Some like gruel with a glass of table beer, sugar, &c., with or without a tea-spoonful of brandy.

Cold Caudle.

Boil a quart of spring water; when cold add the yolk of an egg, the juice of a small lemon, six spoonsful of sweet wine, sugar to your taste, and syrup of lemons one ounce.

A Flour Caudle.

Into five large spoonsful of the purest water, rub smooth one desert spoonful of fine flour. Set over the fire five table spoonsful of new milk, and put two bits of sugar into it: the moment it boils pour into it the flour and water, and stir it over a slow fire twenty minutes. It is a nourishing and gentle astringent food, particularly for babies who have weak bowels.

Rice Caudle.

When the water boils pour into it some grated rice, mixed with a little cold water; when of a proper consistence, add sugar, lemon-peel, and cinnamon, and a glass of brandy to a quart. Boil all smooth.

Another.—Soak some rice in water an hour; strain it, and put two spoonsful of the rice into a pint and a quarter of milk; simmer till it will pulp through a sieve, then put the pulp and milk into a saucepan with a bruised clove and a bit of white sugar: simmer ten minutes: if too thick, add a spoonful or two of milk, and serve with thin toast.

To Mull Wine.

Boil some spice in a little water till the flavour is gained, then add an equal quantity of port, Madeira or sherry, some sugar and nutmeg: boil together, and serve with toast.

Another.—Boil a bit of cinnamon and some grated nutmeg a few minutes in a large teacupful of water; then pour to it a pint of wine,

and add sugar to your taste: beat it up and it will be ready: or, it may be made of good home-made wine.

To make Coffee.

Put two ounces of fresh-ground coffee, of the best quality, into a coffee-pot, and pour eight coffee-cups of boiling water on it; let it boil six minutes; pour out a cupful two or three times and return it again; then put two or three isinglass chips into it, and pour one large spoonful of boiling water into it; boil it five minutes more, and set the pot by the fire to keep hot for ten minutes, and you will have coffee of a beautiful clearness. Fine cream should always be served with coffee, and either pounded sugar-candy or fine sugar. If for foreigners, or those who like it very strong, make only eight dishes from three ounces. If not fresh-roasted, lay it before a fire until perfectly hot and dry; or you may put a small bit of fresh butter into a preserving pan of a small size, and when hot, throw the coffee into it, letting it be cold before ground.

Another.—Take four ounces of fresh-ground coffee, put it into a bowl; beat up an egg with the shell and a spoonful of cold water, which mix well with the coffee; put the whole into a coffee pot; pour two quarts of boiling water upon it; let it simmer by the fire for ten minutes; be careful it does not boil over; pour out a cupful and return it thrice; and after it has stood two or three minutes, pour it into another pot until the sediment appear, and send it to table. If the coffee is wanted stronger, add six ounces. When milk is used instead of cream, it should be heated near the boiling point, but not boil. If the coffee be properly roasted, this way will be much approved of.

To Roast Coffee.—Take of butter the size of a walnut, and a teaspoonful of sugar, which add to the coffee, taking care it is not overdone: what is not wanted for immediate use should be put into an air-tight vessel, kept in a dry place, and ground as it is wanted.

Coffee-Milk.

Boil a dessert spoonful of ground coffee, in nearly a pint of milk, a quarter of an hour; then put into it a shaving or two of isinglass, and clear it: let it boil a few minutes, and set it by the side of the fire to clarify. This is a very fine breakfast: it should be sweetened with sugar of a good quality.

Chocolate.

Those who use much of this article, will find the following mode of preparing it both useful and economical:—Cut a cake of chocolate in very small bits; put a pint of water into the pot, and when it boils, put in the above; mill it off the fire until quite melted, then on a gentle fire till it boil; pour it into a basin, and it will keep in a cool place eight or ten days or more. When wanted, put a spoonful or two into milk; boil it with sugar, and mill it well. This is a very good breakfast or supper.

Cocoa is a light wholesome breakfast.

Milk-Porridge.

Make a fine gruel of cracked corn, grits or oatmeal, long boiled; strain off; either add cold or warm milk, as may be approved. Serve with toast.

French Milk-Porridge.

Stir some oatmeal and water together, let it stand to clear, and pour off the latter; pour more water upon it; stir it well; let it stand till next day; strain through a fine sieve, and boil the water, adding milk

while doing: the proportion of water must be small. This is much ordered, with toast, for the breakfast of weak persons abroad.

Ground Rice Milk.

Boil one spoonful of ground rice, rubbed down smooth, with three half pints of milk, a bit of cinnamon, lemon-peel and nutmeg: sweeten when nearly done.

Sago.

To prevent the earthy taste, soak it in cold water an hour; pour that off and wash it well; then add more and simmer gently till clear: flavour with lemon-peel and spice if approved: add wine and sugar, and boil all up together.

Sago-Milk.

Cleanse as above, and boil it slowly, and wholly with new milk. It swells so much, that a small quantity will be sufficient for a quart; and when done it will be diminished to about a pint. It requires no sugar or flavouring.

Asses' Milk

Far surpasses any imitation of it that can be made: it should be milked into a glass that is kept warm by being in a basin of hot water. The fixed air that it contains gives some people a pain in the stomach. At first, a teaspoonful of rum may be taken with it, but should only be put in the moment it is to be swallowed.

Artificial Asses'-Milk.

Boil together a quart of water, a quart of new milk, an ounce of white sugarcandy, half an ounce of eringo-root, and half an ounce of conserve of roses, till half be wasted. This is astringent, therefore proportion the dose to the effect, and the quantity to what will be used while sweet.

Another.—Mix two spoonfuls of boiling water, two of milk, and an egg well beaten; sweetened with pounded white sugar-candy. This may be taken twice or thrice a day.

Another.—Boil two ounces of hartshorn shavings, two ounces of pearl-barley, two ounces of candied eringo-root, and one dozen of perrywinkles, that have been bruised, in two quarts of water to one: mix with an equal quantity of new milk, when taken, twice a day.

Water-Gruel.

Put a large spoonful of oatmeal or fine Indian meal, by degrees, into a pint of water, and when smooth, boil it.

Another.—Rub smooth a large spoonful of oat or fine Indian meal with two of water, and pour it into a pint, boiling on the fire; stir it well and boil it quick, but take care it does not boil over: in a quarter of an hour strain it off, and add salt and a bit of butter when eaten: stir until the butter be incorporated.

Barley-Gruel.

Wash four ounces of pearl-barley; boil it in two quarts of water and a stick of cinnamon till reduced to a quart; strain, and return it into the saucepan with sugar, and three quarters of a pint of port wine; heat up, and use as wanted.

A very Agreeable Drink.

Into a tumbler of fresh cold water pour a tablespoonful of capillaire, and the same of good lemon-juice.

Tamarinds, fresh or in jelly, or scalded cranberries, make excellent drinks, with or without a little sugar, as agreeable.

A refreshing Drink in a Fever.

Put a little tea-sage, two sprigs of balm, and a little sorrel, into a stone jug, having first washed and dried them; peel thin a small lemon, and clear from the white; slice it, and put a bit of the peel in; then pour in three pints of boiling water; sweeten, and cover it close.

Another.—Wash extremely well an ounce of pearl-barley; shift it twice; then put to it three pints of water, an ounce of sweet almonds beaten fine, and a bit of lemon-peel; boil till you have a smooth liquor; then put in a little syrup of lemons and capillaire.

Another.—Boil three pints of water with an ounce and a half of tamarinds, three ounces of cranberries and two ounces of stoned raisins, till near a third be consumed: strain it on a bit of lemon-peel, which remove in an hour, as it gives a bitter taste if left long.

A very Pleasant Drink.

Put a teacupful of cranberries into a cup of water, and mash them. In the mean time boil two quarts of water with one large spoonful of corn or oat meal and a bit of lemon-peel; then add the cranberries; as much fine sugar as shall leave a smart flavour of the fruit, and a quarter of a pint of sherry, or less, as may be proper: boil all for half an hour and strain off.

Soft and Fine Draught for those who are Weak and have a Cough.

Beat a fresh-laid egg and mix it with a quarter of a pint of new milk warmed, a large spoonful of capillaire or vinegar, the same of rose water, and a little nutmeg scraped. Don't warm it after the egg is put in. Take it the first and last thing.

Toast and Water.

Toast slowly a thin piece of bread till extremely brown and hard, but not the least black; then plunge it into a jug of cold water and cover it over an hour before used. This is very serviceable in weak bowels. It should be of a fine brown colour before drinking it. Or, when the bread is ready, pour boiling water over it and let it stand until cool.

Barley-Water.

Wash a handful of common barley, then simmer it gently in three pints of water, with a bit of lemon-peel.

Another.—Boil an ounce of pearl-barley a few minutes to cleanse, then put on it a quart of water; simmer an hour: when half done, put into it a bit of fresh lemon-peel and one bit of sugar. If likely to be too thick, you may put another quarter of a pint of water. Lemon-juice may be added if approved.

Lemon-Water, an excellent Drink.

Put two slices of lemon thinly pared into a teapot, a little bit of the peel, and a bit of sugar; pour in a pint of boiling water, and cover it close two hours.

Apple-Water.

Cut two large apples in slices, and pour a quart of boiling water on them; or on roasted apples; strain in two or three hours, and sweeten lightly.

Whey.

That of cheese is a very wholesome drink, especially when the cows are in fresh herbage: it makes a good nourishing gruel.

White-Wine Whey.

Put half-a-pint of new milk on the fire; the moment it boils up pour in as much sound raisin-wine as will completely turn it, and it looks clear; let it boil up; then set the saucepan aside till the curd subsides, and do not stir it. Pour the whey off, and add to it half-a-pint of boiling water, and a bit of white sugar. Thus you will have a whey perfectly cleared of milky particles, and as weak as you choose to make it.

Lemon-Whey.

Pour into boiling milk as much lemon-juice as will make a small quantity quite clear; dilute with hot water to an agreeable smart acid, and put a bit or two of sugar. This is less heating than if made of wine; and if only to excite perspiration, answers as well.

Butter-Milk, with Bread or without.

It is most wholesome when sour, as being less likely to be heavy; but most agreeable when made of sweet cream.

Sweet Butter-Milk.

Take the milk from the cow into a small churn; in about ten minutes begin churning, and continue till the flakes of butter swim about pretty thick, and the milk is discharged of all the greasy particles, and appears thin and blue; strain it through a sieve, and drink it as frequently as possible. It should form the whole of the patient's drink, and the food should be biscuits and rusks, in every way and sort; ripe and dried fruits of various kinds, when a decline is apprehended; raisins in particular (of all baked or dried fruits) make excellent suppers for invalids, with biscuits or common cakes.

Orgeat.

Beat two ounces of almonds with a teaspoonful of orange flower-water and a bitter almond or two; then pour a quart of milk and water to the paste; sweeten with sugar or capillaire. This is a fine drink for those who have a tender chest; and in the gout it is highly useful; and, with the addition of half an ounce of gum-arabic, has been found to allay the painfulness of the attendant heat. Half a glass of brandy may be added if thought too cooling in the latter complaints, and the glass of orgeat may be put into a basin of warm water.

Orangade, or Lemonade.

Squeeze the juice; pour boiling water on a little of the peel, and cover close: boil water and sugar to a thin syrup, and skim it. When all are cold, mix the juice, the infusion, and the syrup, with as much more water as will make a rich sherbet; strain through a jelly-bag. Or, squeeze the juice, and strain it, and add water and capillaire.

Egg-Wine.

Beat an egg; mix with it a spoonful of cold water; set on the fire a glass of white-wine, half a glass of water, sugar and nutmeg. When it boils pour a little of it to the egg by degrees, till the whole be in, stirring it well: then return the whole into the saucepan; put it on a gentle fire; stir it one way for not more than a minute; for if it boil, or the egg be stale, it will curdle. Serve with toast.

Egg-wine may be made as above, without warming the egg, and it is then lighter on the stomach, though not so pleasant to the taste.

The Virtues of the Simple and Compound Medicinal Preparations of the Author.

The medicinal preparations and combinations, as well as their effects on the human body, have not only been accurately made up and observed by me in my extensive practice, but many medical men, who rank very high in the profession, are agreed as to their specific action and salutary virtues. No poison enters into their composition, and they may be trusted into the hands of patients without any risk.

Their several properties may be seen by referring to them in the order they are given.

Alterative. No. 1,

Acts by promoting all the secretions, particularly the secretions of the glands, mucous membranes, kidneys and skin. It is administered in cases of dry, scaly, cutaneous disease, rheumatism, gout, and other diseases attended with spasmodic affections of the muscles; also quinsy, croup, hooping-cough, and measles: the due action of the bowels being preserved by means of the ordinary vegetable purgatives. It is likewise employed in all those states of constitution requiring the action of an alterative, without that of purgative medicine, particularly for women during pregnancy, at their confinement, and when they are nursing. This medicine is unequalled for increasing the quantity and improving the quality of the milk in nurses, and in removing any constitutional maladies the child may inherit from its parents.

Alterative and Purgative. No. 2.

Besides the action of No. 1, above described, this medicine operates as a safe and effectual purgative, by increasing the secretions of the stomach and bowels, and promoting the peristaltic motion of the intestines. It acts powerfully when given in full doses, frequently repeated, as a sudorific, and increases the action of the whole absorbent and glandular systems of the body. Hence the value of this medicine in the treatment of scrophula and glandular diseases, dyspepsia, habitual constipation of the bowels, diseases of the liver, spleen and mesenteric glands, humid disorders of the skin, and in short, in all those complaints which so often arise from a derangement of the digestive functions.

Given in full doses at the commencement of attacks of fever and inflammation, it generally stops their progress by opening all the emunctories of the body. It is the most valuable in the cure of cholera morbus, yellow, putrid and typhus fevers, liver complaints, atrophy, and most diseases of hot climates.

Alterative and Emollient. No 3.

In addition to the action of No. 1, this medicine acts as a demulcent, and is given in all those cases in which the No. 1 is employed, and a modified operation of the medicine is required; particularly in some cases of cutaneous disease, of the dry scaly character, upon which this medicine has a specific action, as well as in cases of pulmonic disease, to repress hectic fever, and promote expectoration of purulent matter from the lungs.

Alterative and Sudorific. No. 4.

This medicine being a combination of the No. 1, with a powerful sudorific and antiseptic, is extremely valuable in all cases where there is a putrescent tendency in the fluids or solids of the body, as in the advanced stages of fever, after due evacuations have been employed, and in cases of mortification of any part of the body. In short, it may be employed whenever a sudorific effect is required, and when the use of the vapour-bath is inadmissible.

Antiacid. No. 5.

This medicine is administered to correct acidity in the stomach, which often remains after the alterative and purgative medicine has been duly employed in cases of scrofula. Besides its operation as an antiacid, it acts effectually in dispersing glandular swellings, so long as they continue hard and moveable beneath the skin; but when they become soft and adhere to the integuments, their dispersion will then be best promoted by the use of the alterative and purgative medicine No. 2. I know of no medicine that is equal to it in the cure of dyspepsy.

Antiacid and Tonic. No. 6.

This medicine, like No. 5, acts powerfully in promoting the removal of scrofulous tumours, after a proper course of the alterative and purgative medicine; but as it is apt to occasion sickness or nausea of the stomach, head-ache great temporary prostration of strength and depression of spirits, it should be applied very cautiously and only in small doses. Very large glandular swellings, in the course of a few days, become absolved under the use of this medicine, which may account for the great constitutional disturbance it occasions.

Antipseudo Syphilitic. No. 7.

In cases of syphilitic disease, after mercury has been administered, so as to affect the mouth for the length of time ordinarily deemed sufficient to effect its cure; and after the alterative and purgative medicine No. 2 has been duly employed to remove the mercury from the system, should any of the symptoms of the original disease remain, this medicine may be employed to dispel; but it should be used very cautiously, as it is liable to occasion giddiness, excessive nervous debility, and tumours over the whole body: it also removes strictures of the urethra, and is a valuable remedy in all cases of humid leprosy.

Antihæmorrhagic. No. 8.

Is employed as a valuable remedy in all those diseases belonging to the order hæmorrhagia, or profluvia in Cullen's Nosology, as bleeding at the nose, spitting of blood, bleeding piles, excessive menstruation, dysentery, diarrhœa, copious purulent discharges from abscesses seated in the lungs by expectoration, or in any other part of the body, especially those of a scrofulous character. This medicine also acts as a mild but effectual tonic, in raising a patient from a state of extreme debility, occasioned by either of the above discharges, and may be given with perfect safety, as it restores strength without increasing vascular action.

Tonic and Aromatic. No. 9.

May be employed alternately with the alterative No. 11, to restore the tone of the stomach and bowels, and to increase the vigour of the constitution: it exhilarates, promotes appetite, and invigorates the frame. It is particularly serviceable in liver complaints, to restore the healthy action of the digestive functions, after existing obstructions have been removed; and generally in cases where a gentle tonic medicine is required, or the milder tonics are indicated.

Tonic, Aromatic and Aperient. No. 10.

This medicine being the same as No. 9, just described, with the addition only of a saline purgative ingredient, may be employed under similar circumstances, except where a necessity exists for a more active aperient medicine, particularly after the administration of the alterative and purgative No. 2.

Tonic and Corroborant. No. 11,

Is a medicine, as its name implies, of a most powerful tonic quality, and may be administered in all cases where the Peruvian bark and steel are ordinarily employed. It stimulates the nervous and vascular systems: for instance, in cases of intermittent and remittent fever, in the intervals between the paroxysms, after proper evacuations to remove obstructions. This medicine given hot in a full dose, exerts a peculiar power in relieving the pain arising from difficult menstruation.

Tonic, Corroborant and Aperient. No. 12.

This medicine being the same as the above, with the addition only of a saline purgative ingredient, as in the case of No. 10, may be employed under similar circumstance as its basis No. 11, but where a necessity exists for an aperient effect. From some trials which have been recently made of this and the foregoing medicine, in cases of true cancer, it promises to be a valuable remedy in mitigating the symptoms and alleviating the sufferings of the patients, if not of curing that dreadful malady. It lessens the discharge, diminishes its foetid smell, and certainly promotes the closing of the wound.

Tonic and Astringent. No. 13.

In extreme cases of diarrhœa, arising from the relaxation of the mucous membrane, lining the stomach and bowels, indicated by frequent alvine evacuations mixed with a large quantity of mucous, this medicine affords relief, where the anti-hæmorrhagic medicine is ineffectual to arrest the diarrhœa: it is employed efficaciously in the latter stages of dysentery.

Tonic and Antibilious. No. 14.

This medicine represses the increased secretion of bile, prevents sea-sickness, cures bilious attacks attended with vomiting of bile, and at the same time obviates the debility occasioned by either of the above causes.

Antiacrid or Cancerous. No. 15.

The medical gentlemen who have superintended my vapour-bath establishments in America for three years past, have been indefatigable in their endeavours to find out the specific virtues of untried herbs. Among the most valuable discoveries, is a medicine which has succeeded in their hands in curing several cases of true cancer. They have sent me the preparation for trial in this country, and I have successfully treated three cases. I certainly think it promises to be the most active, the safest and best remedy hitherto employed, for curing that most formidable disease. The course to be pursued is, that the alterative or alterative and purgative medicine be taken; then the tonic and corroborant, or tonic, corroborant and aperient, as circumstances may render necessary, and afterwards the anti-acrid. The tumour or ulcer should be covered with appropriate plasters, until the cure is performed.

N.B.—The *Compound Powders* are so combined, that with the exception of the compound powders No. 2, 10 and 12, one ounce of either of the powders is to be used in the proportion of one pint of water, for preparing the decoctions which are to be made agreeably to the printed directions. Of the compound powders No. 2, 10 and 12, one ounce and a half of the powder is to be employed to one pint of water.

In preparing the medicines from the compound powders No. 7, 8, 9, 10, 11, 12, 13 and 14, the decoction does not require to be boiled more than ten minutes, as by a longer boiling the active properties of the medicines are volatilized.

FINIS.

THE
MEDICAL,
BOTANICAL SYSTEM
OF
LINNÆUS.

TRANSLATED BY
CHARLES WHITLAW.

VOL. II.

—◆—
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TRANSLATION OF THE
PREFACE, CANONS, &c.

PREFIXED BY LINNÆUS

TO HIS

MATERIA MEDICA.

THIS little work of the *Materia Medica*, for the advantage of those scholars, students at the University of Upsal, I have composed at the time when the Most Serene Prince ADOLPHUS FREDERICK ruled our academy as the august Chancellor,—when the students were striving with mutual emulation to augment the sciences. I took care that there should be published a book of small dimensions; nor should it be a burthen to the learners, to whom it behoves them to know a few things; and that well; that with such a foundation they might hereafter erect a structure of erudition the most vast, founded upon practical experience, and elucidated by cogent reasonings: for learned physicians know that I have not written for them: for so great is the abundance of medical virtues in plants, that they could not be contained in a small work, but must fall from their own weight.

I only bring forward *simples*, from which com-

pounds are afterwards to be made and judged of. For who could make a right judgment of compounds who were ignorant of the properties of simples? Simples are taken from the three kingdoms of nature: the animal, vegetable, and mineral. I have only treated of the vegetable kingdom, which constitute a large portion of the *materia medica*, reserving the rest for another occasion, when I come to treat of the three kingdoms of nature.

I have only introduced those plants which are to be found in the shops of Sweden, which will be found of service to those physicians who intend to practice in Sweden; therefore I treat of scarcely any other plants but such as appear in the *Stockholm Pharmacopœa*; and of these I have included nearly all, although I might have omitted many, and they deserve to be so treated.

Although there are some, not commonly used, whose virtues ingenious physicians have explored, which I could not insert, but shall give them in a catalogue, and these are—

<i>Indigenous.</i>		<i>Cultivated in the Garden.</i>	<i>Exotics.</i>
<i>Roots.</i>	Actææ.	<i>Roots.</i> Lapath. sang.	<i>Roots.</i> Alcanth. ver.
	Burb. Hirci.	<i>Herbs.</i> Ammi vet.	Senegæ.
	Bolet. Cervin.	Camphoratæ.	<i>Woods.</i> Cassines.
	Eupatorii.	Laurocerasi.	Ebeni.
	Salep.	Melissæ.	Pavanæ.
	Telephii.	Scrophul. aquatic	Profluv.
<i>Stipes.</i>	Dulcamar.	<i>Berry.</i> Belladonnæ.	<i>Bark.</i> Simarub.
<i>Herbs.</i>	Cotulæ.		<i>Herb.</i> Auricular.
	Lamii.		Acmellæ.
	Lini cathart.		Fung. Melit.
	Linnaææ.		Paraquæ Myrt.

I call those *foreign plants* which are scarcely to be ever met with in European gardens, and are therefore to be sought after in foreign countries.

The *duration*, so that its culture may be more conspicuous, I have added in one word—

Semestris.

Annua.

Biennis.

Perennis.

Fruticulus.

Frutes.

Arbuscula.

Arbor.

The *pharmaceutical name*, although it may be truly absurd, I have religiously preserved, since it has the authority of many years, and is therefore exempt from the laws of reason.

Simples, which are taken from all the parts of plants, I have indicated accordingly, as—

Radix.

Lignum.

Cortex.

Folia.

The Juice.

Flower.

Fruit.

Seeds.

The *qualities* are the evidences of the external senses.

The *odour* is determined by the nose, and are volatile.

The *taste* is manifest to the tongue, and are soluble in water.

The *superfices* are for the most part discovered by the eyes, as the colour, consistency, &c.

The *localities* of each plant I have noticed, so that it is evident whence each plant is derived; which knowledge is chiefly necessary to the apothecary: but when a Swedish plant comes from adjoining regions, that I may avoid a redundancy of expression,

I place it as coming from Northern Europe, which indicates a Swedish plant.

I call those *vulgar* plants, which, of their own accord, spring up.

Cultivated are exotics, which, being once introduced into our gardens, easily subsist by the annual seed or perennial roots.

Tamed, which, after the manner of tame animals, thrive well, provided they have a shelter during the winter, or are slightly defended from cold.

I call those *wild*, which, after the manner of wild beast, are to be confined and guarded during the winter in hot-houses, lest they should escape and perish—such as scarcely produce seed in our climate: as—

Myrt. Brabant.	<i>Berry.</i> Norlandicæ.
Musc. Cumatil.	Vitis idææ.
— Canini.	<i>Seeds.</i> Daturæ.
— Erecti.	Fagopyri.
— Islandici.	<i>Fruit.</i> Fagaræ.
— Pyxidati.	Nucul. Sapon.
Pedicularis.	Pimentæ.
Vulvariæ.	Orizæ.
Uvæ ursi.	<i>Juice.</i> Hypocistid.
Xanthii.	Soyæ.
	Sagu.
	Vernicis.

The *method* which I have followed in describing each plant is alike and most compendious, and is embraced in the following order:—

- | | |
|-------------------|-----------------|
| 1. Nomen. | 5. Vis. |
| 2. Locus. | 6. Usus. |
| 3. Pharmacuticum. | 7. Composition. |
| 4. Qualitas. | |

I have reduced the *species* into genera, and these into classes, so that plants may be better known to

botanists. The distinguishing characters, so that plants may be discriminated, I have carefully added, always referring to the *Swedish Flora*, so that apothecaries may not be under the necessity of seeking indigenous plants in foreign climates. In like manner, I have never omitted to call into aid the plants cultivated in the garden at Upsal, so that apothecaries may notice what plants are easily or with difficulty cultivated there, which we have examined by numerous experiments, so that he may not be obliged to fetch from foreign soil, what may be had nearer home.

Doubtful plants I have endeavoured to reduce to *species*: those I could not determine, I have formed into a catalogue, which with hesitation I have added, that some future botanist may be able to find a place, so that they may be collected for shops, and should be solicitously inquired into:—

<i>Roots.</i> Behen rub.	<i>Bark.</i> Canell. alb.	<i>Juice.</i> Ammoniacum.
Contrayerv.	Simarubæ.	Animi.
Costi.	Thymiamat.	Bedellium.
Galangæ.	<i>Herb.</i> Spicæ ind.	Benzoe.
Hermodact.	<i>Seed.</i> Anis. Stellat.	Bals. Mecha.
Jalapæ.	Amomi.	—— Peruv.
Ipecacuanh.	Coculi.	—— Tolu.
Ninsi.	Cinæ.	Caranna.
Parejrebrav.	Cubebæ.	Elemi.
Schænanthi.	Dauci cret.	Galbanum.
Zedoariæ.	Myrob. indic.	Myrrha.
<i>Wood.</i> Aloe.	—— Bellir.	Olibanum.
Aspalath.	—— Chebul.	Opopanax.
Basilicus	—— Citrin.	Sagapenum.
Fernambue.	Paradisi	Styrax liquid.
Ebenum.		Sang. Dracon.
Nephrit.		Tacamahaca.
Rhodium.		Rhus.

Plants are distinguished by being—

<i>Sapid.</i>	Fatua.	Insipida.	Aquosa, Herbacea.
	Oleracea.	Mucilaginoso.	Pinguia, Dulcia.
	Aromatica.	Acrida.	Pungentia.
	Calida.	Fervida.	Ignea, Urente.
	Salsa.	Acida.	Austera, Styptica.
	Amara.		
<i>Odorous.</i>	Inodorous.	Fragrantia.	Suaveolens.
	Ambrosiaca.	Hircosa.	Graveolens.
	Fætida.	Tetra.	Nauseosa.
In <i>Superficies</i> coloured, of various Colours.			
	Osseous.	Friable.	Porous, Lactescent.
	Tenacious.	Glutinous.	Frothy.
	Gummy.	Resinous.	Gummy-Resinous.

Sometimes I have simplified, what medical men have said, in one or two words.

The *power* of acting I have also confined to—

Dubia.	Infida.	Prestantia.
Eximia.	Heroica.	Cauta.

The *manner* of prescribing I have often omitted, scarcely ever adding it :—

Externa.	Pretiosa.	Culinaria.
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The *frequency* of prescribing, as at this day practised :—

Rariora.	Frequentia.	Trita.	Usitata.
Insucta.	Infrequentia.	Exoleta.	

The *powers* which theoretically explain the actions of plants are, if you except a few, often merely speculative; hence I have been sparing in the enumeration.

Lest the terms of our art should be felt as a burthen to our youth, in the following pages I have

methodically disposed them into the following classes :—

Evacuantia.

Muscularia.

Visceralia.

Alterantia.

Nervina.

Topica.

The *uses* of plants I have confined to a few lines, and have been sparing in these : I could easily have included an immense number of plants, but I have rather preferred to confine our knowledge to a few than a number. Medicine had nearly sunk under the load, nor was it restored by *formula*. For the sake of students, I have not alleged more uses than those which authors have proved by many experiments, or those which I myself have proved by sufficient experiments.

I have added a few compound remedies, but must be allowed to express my particular sentiments, that they combine what are capable of being joined : this defect may be supplied from Commelinus and others. My colleague, the most illustrious Rosen, has begun a work of this kind ; but being called off by more important business, has not yet published it : I could have wished to have added his *select formulæ*, but am unable from this cause. I have accomplished thus far, my beloved Disciples, being born only to serve you.

Given at Upsal,

January 28, 1749.

CANONS OF LINNÆUS.

1. Medicine was not invented after reasoning, but after medicine was discovered, then the reasons were sought after.—*Celsus*.
2. There are two medical *fulcra*—reason and experience. Experience precedes, reason follows: hence, reasoning not founded on experience, avails nothing.—*Hoffman*.
3. I had rather commit my health to a famous empiric, than to a subtle mechanic.—*Goelik*.
4. Barbarians have more conduced to the augmentation of medicine, than the schools of all ages.—*Brunn*.
5. He who knows many useful things, is truly wise.—*Contra Æsculap*.
6. The physician uses a few remedies, but those are select.—*Trit*.
7. Select remedies ennoble a physician.
8. He who can cure by simples, need not seek for compounds.—*Villanov*.
- 9.—He who prescribes a farrago of medicine, sins either by design or ignorance.
- 10.—He who mingles contraries, sins against the pharmacopœa.
- 11.—Chemistry has elaborated many medicines, but has detected none formed out of plants.
- 12.—The physician *destitute of a knowledge of plants*, can never properly judge of the power of a plant.
- 13.—The uses of plants are discovered by system and experience.

14. The vegetable kingdom is the most noble in medicines; stones are too hard; and animals afford the fewest medicines.
 15. Esculent plants preserve, poisons restore health.
 16. Aliments are produced from esculent plants, as medicines are from poisons; which not their nature, but their doses, distinguish.
 17. Too much of any thing, however good, is inimical to nature.
 18. *Mild* medicines preserve—whilst *violent* ones destroy nature.
 19. Contraries cure contraries; and thus diseases cure diseases.
 20. To use medicine, except in violent disorders, is useless.—*Celsus*.
 21. Heroic medicines in the hands of an unskilful man, are like a sword in the hands of a mad-man.—*Trit*.
 22. Where there is only one road to health, this must be tried, even with danger to the patient.
 23. It is better to try a doubtful remedy than none.
 24. Those who cannot be cured rationally, are often cured by temerity.—*Celsus*.
 25. The rich man oftentimes gives up the power over his life to a wise physician.
 26. Nature, assisted by art, sometimes effects miracles.
 27. Fortunate is that power which comes at a critical time.
 28. Nature objecting, medicine hath no avail. *Celsus*.
 29. It is the part of a wise physician to decline prescribing in a lost case.—*Celsus*.
-

THE
POWERS OF PLANTS.

The powers or virtues of plants, the true botanist takes from the fructification, observing the taste, the odour, the colour, and the locality.

The authors of aphorisms were Herman, Camera-rius, Hoffman, and others.

A Dissertation on the Virtues of Plants was published at Upsal, in 1747, by Hasselquist. This is explained under each chapter.

False is the theory of the ancients, concerning the power of herbs, taken from astrology, signs, and chemistry.

The natural orders prove the truth of the aphorisms.

Plants which agree in *genus* also agree in *virtue*: those which are contained in a natural *order* also approach in *virtues*. Those plants which agree in a natural *class*, even agree in a certain measure in *virtues*.

Those plants agreeing in *genera* possess the same *virtues*.

Convolvuli.—Scammony, mechoacanna, turpethum, soldanella.

The Onions.—Moly, porrum, cæpæ, victorialis.

Laurels.—Cinnamon, malanathium, cassia, camphor, sassafras, benzoin.

Euphorbiæ.—Esula, cataputia, tithymalus.

Artemisiæ.—Abrotanum, absinthium, cina, seriphium.

Those which agree in a natural *order* agree also in *virtues* as the—

Columniferæ.—Malva, althea, alcæa, gossypium.

Scitaminia.—Ginger, cardamoms, galanga, zedary, costus, grains of paradise, curcuma.

Orchideæ.—Satyrium, serapias, epidendrum.

Multisiliquæ.—Piony, aquilegia, aconitum, delphinium, nigella, hellebore, ranunculus, pulsatilla.

Contortæ.—Apocynum, cynanche, asclepias, &c.

The following agree in *class* and *virtues* :—Graminæ, tricoceæ, papilionaceous, compound, sarmentaceous, lomentaceous, umbellate, oleraceous, siliquosæ, ferns, verticellate.

The leaves of grasses nourish the herds of sheep and oxen; the lesser seeds are for birds, the larger serve as food for man.

The leaves of the grasses furnish food for the larger animals. The lesser seeds, as the phalaris, the panic and millet, are most agreeable to the sparrow and the gallinaceous tribes.

The larger seeds, which afford food to man, are the oriza, triticum, barley, oats, millet, panic, holcus, zizania, and maize.

The stellate are diuretic. Examples :—Rubia, asperula, galium, aparine.

The asperifoliæ are more or less oleraceous, mucilaginous, and glutinous.

Oleraceæ.—Anchusa, borrago, &c.

Mucilaginous.—Especially the root of the consolida major.

The lurid are suspected plants.

Fætid.—Solanum, hyoscyamus, nicotiana, atropa, mandragora, datura.

Stupifying and Narcotic.—Atropa, mandragora, nicotiana, hyoscyamus, melongena, lycopersicon.

Highly Corrosive.—Capsicum.

Umbellate.—In dry places are aromatic, heating, expelling; in watery, poisonous; the virtue chiefly resides in the roots and seeds.

Those which are found in watery places are poisonous, as cicuta, œnanthe, sison, phellandrium, apium palustre.

Promoting sweat, urine, flatulency, the menses, and milk, are assafoetida, levisticum, angelica, imperatoria, pimpinella, peucedanum, opoponox, galbanum, carvi, cuminum, daucus, meum, fennel.

The roots of the hexandrious plants, according to taste and smell, are eatable or noxious.

Roots which are eatable and inodorous.—Martagon, tulip ornithogalum.

Poisonous, according to their smell: as the gloriosa, scilla, hyacinth, anthericum, leucojum, narcissus, crown imperial.

Bicornes are astringent, but the acid berries are esculent.

Astringent.—Erica, pyrola, vaccinium, but chiefly the uva ursi.

Acid Berries and Esculent,—as the vaccinium, myrtle, oxycocci, uvæ ursi, arbutus, guajacanæ, melastomæ.

Icosandria.—The fruit is pulpy and esculent.

Pomaceous.—Apple, pear, granate, cratagi, mespilus, sorba, currant.

Hedgy,—as the cynorbata, ruba, fraga.

Drupaceous.—Amygdala, pruna, cherry.

Shrub.—Guajava, eugenia.

Polyandria are for the most part poisonous.

Multisiliquæ.—Aconite, anthora, columbine, staphisagria, larkspur, hellebore, clematis, pulsatilla, paony.

Rhoeades,—as poppy, celandine, actæa.

Others,—as euphorbia, gambogia, peganum.

Verticellatæ are fragrant, nervous, resolvent, and expelling: the leaves abound in virtue.

The most Fragrant.—Marum, dictamnus, satureja, thymus, origanum, majorana, ocymum, pulegium, mentha, melissa, lavandula, rosmarinus, salvia, hormium, sclarea.

The fragrant act upon the nerves.

They expel wind, the menses, milk, and other secretions.

Siliquosæ are aqueous, acrid, exciting, abstergent, and diuretic: by drying, their powers are diminished.

Since by drying their powers are diminished, they are administered in their green state by medical men.

Since they attenuate by their acridness, hence they

resolve œdematous and frigid tumours; as cochlearia, armoracia, sisymbrium, &c.

Columniferæ are mucilaginous, lubricating, ob-tunding, and ripening.

They lubricate by inverting acrid humours, in coughs, strangury, nephritis, in colic, in excoriations, hence they alleviate pains.

They mature by softening.

Papilionaceus.—The leaves are esculent to oxen and sheep; the seeds to various animals: and they are farinaceous and flatulent.

Flatulent and Esculent,—as beans, vetches, peas, French and kidney-beans, lentils.

They supply most excellent food to quadrupeds, as trefoil, medicago, trigonella, hedysarum, vetches, lotus, and lathyrus.

Syngenesia in composition is most received in medicine: commonly they are bitter.

The bitter, as eupatorium, tanacetum, balsamita, absinthium, abrotanum, artemisia, ageratum, matricaria, chamomilla, cotula, acmella, auricula muris, taraxacum, cichoreum, carduus mariæ, carlina, carduus benedictus.

Orchidæa are aphrodisiac.

Amongst the primary aphrodisiacs, are the vanilla of the Americans, the salep of the east, and the satyrium of Europe.

Coniferæ are resinous and diuretic.

They all bear rosin: hence they are evergreens diuretic, rendering the urine with the smell of violets, as the turpentine, junipers, savin, olibanum, pinus, abies, cupressus.

Cryptogamia contain vegetables often suspicious.

Ferns are ungrateful from a strong smell.

Mosses have the same odour.

Algæ are a few of them esculent, and mostly purge.

Fungi, a doubtful food according to Pliny.

Plants having a nectary distinct from the petals, are commonly poisonous.

A distinct nectary is observed in the aconite, hellebore, aquilegia, nigella, parnassias, epimedium, clutia, kiggellaria, hyacinth, stapelia, asclepiade, mirabalis, nerium, narcissus, zygophyllum, dictamnus, melianthus—all of which are poisonous.

Lactescent Plants are commonly poisonous, but less than the semiflosculous.

The lactescent plants are commonly poisonous, the contorted, the rhoades and tricoccæ: as rauwolfia, thevetia, cerbera, plumieris, tabernæmoront, periploca, apocynum, cynanchum, ceropegia, asclepias, papaver, argemone, chelidonium, bocconia, sanguinaria, euphorbia, gambogia, delecampia, jatropha, rhus, ficus, acer, melia, agarici.

The semiflosculous lastescent are scarcely poisonous. prenanthes, chondrillo, hicraceum, crepis, hypochæris, picris, hyoseris, leontodon, tragopogon, lactuca; but of this last there is a species, thorny, poisonous; very poisonous.

Companulati are partly poisonous, as lobelia: partly, however, scarcely noxious, as the campanula.

Locality.—A *dry* place renders plants sapid; a *succulent*, more insipid; a *watery* place renders them corrosive.

Most aquatic plants are acid and corrosive, as the

ranunculus, calla, nymphæa, sium, phillandrium, cicuta, persicaria, armoracea, sisymbrium.

Vernal Flowers, from this cause, are mostly acid.

Plants growing in their native soils are mostly insipid, as many of the *olera*.

In a dry soil come those plants which excel in aroma, as cinnamon, rosemary, thyme, sage, origanum, clinopodium, hyssop, lavender, caryophyllus.

The fruit of the strawberry in humid and dry places become more austere; in dry places, and exposed to the sun, they come out sweet.

The qualities of plants, in which the virtues are placed, the *taste, odour* and *colour* declare.

The external senses are the natural instruments by which are to be detected the qualities of plants.

Insipid and *inodorous* plants are devoid of medical virtue.

The most sapid and *most odorous*, truly always possess great medical virtues. This being extracted, the power is found in the *fæculæ*; as in the *callas, arum, jatropha, elaterium*.

By mastication, the virtues residing in *sapid* plants are best explored.

The *sapid* and *sweet-smelling* are good; the *nauseous* and *strong-smelling* are poisonous.

These notions are inscribed in the senses of all animals, according to the texture of each body.

The *strong-smelling* are bad, as *fungi, cotula, sambucus, actæa, aconitum, helleborus, veratrum, asarum, anagyris, solanum, datura, nicotiana, hyoscyamus, tagetes, cassia, stachys, doronicum, colocynthis, coriandrum, buxus, cynoglossum, juglans, opium*.

Contrary qualities exert a contrary effect.

Contrary diseases acknowledge a contrary cause, which exercises a contrary effect : diseases are therefore cured by diseases.

All plants act, the *olida* on the *nerves*, the *sapid* on the *fibres*, and both on the *fluids*.

The *sapid* do not act on the nerves, nor the *olida* on the muscular fibres.

The *fluids* are changed by the *sapid*; they are evacuated by the *sapid* and *olida*.

The *ambrosiacal* are analeptic; the *fragrant* are orgastic; the *aromatic* are excitors; the *fœtid* are stupifying; the *nauseous* are corrosive.

The ambrosiacal, or musk-like, are amboras, muschus, zibethum, asperula, abelmosep, geranium, morchatum, malva, moschata, milium, aira.

The *most fragrant* commends itself by its most agreeable odour : as the flowers of the crocus, cheiranchi, polianthis, jasmine, lili, filiæ, violæ.

The herbs, as lavender, thyme, majorana, veymum, origanum, satureja, melissa, marum.

The *aromatic* nearly agree in odour and taste : as the cinnamomum, laurus, sassafras, camphora, macis, cardamomum, caryophyllus, myristica, acorus, ammi, angelica, citrus.

The *strong-smelling* are singular :—

Aliaceous, as the allium, capæ, porrum, alliaria, scordium, petiveria, assafœtida.

Goaty, as the orchis, vulvaria, hieracium, fœtidum, geranium robertianum.

The *fœtid* most notorious for a disagreeable odour,

are stachys foetida, cotula foetida, tagetes, opium, cannabis, ebulus, anagyris.

The *nauseous*, which nature abhors, as veratrum, hellebore, convallaria, asarum, nicotiana, colocynthis.

The *sapid* act on the fluids and solids.

The *sweet*, soften and fatten.

Acrid, incide and corrode.

Fat, obtund and are emollient.

Styptic, inspissate and astringe.

Acid, cool and attenuate.

Bitters, balsamic and tonic.

Blunting, mucilaginous and lubricating.

Salt, penetrating and cleansing.

Watery, cleansing and moistening.

Dry, absorbent and drying.

Contrary Qualities.

Qualities Agreeing.

Water and dry.

Watery and viscous.

Fattening and styptic.

Sweet and fat.

Acid and bitter.

Acid and salt.

Sweet and acrid.

Acrid and bitter.

Salt and viscous.

Dry and styptic.

Contrary Powers in the fluids :—

Cleansing . . and absorbing.

Refrigerating . . balsamic.

Sweetning inciding.

Obtunding inspissating.

Mucilaginous . . penetrating.

Contrary powers in the solids:—

Moistening . . and drying.

Attenuating tonic.

Fattening abstergent.

Emollient , astringent.

Lubricating corroding.

Examples:—

Aqueous water.

Dry farina.

Viscose gum.

Acrid mustard.

Fattening . . . oil.

Salt salt.

Sweet sugar.

Bitter bile.

Acid vinegar.

Styptic . . . galls.

A *pale colour* denotes insipidity ; a *green*, crudity ; *yellow*, bitter ; *red*, acidity ; *white*, sweetness ; and *black*, an ungrateful taste.

Yellow, bitter ; as gentian, aloë, chelidonium, curcuma.

Red, an acid ; as the berry of oxycocci, barbery, currants, mulberries, apples acid, hippophaes sorbi, roses, cherries.

Herbs towards autumn *red*, as acetosa, oxalis, lapathum, sanguineum, brassica.

Green, crude ; as leaves and unripe fruits.

Pale, insipid ; as lettuce, cichoreum, asparagus.

White, sweetness ; as currants, sweet apples, the white plum.

Black, ungrateful, and often poisonous ; as berries of the atropa, acteæ, coriariae, solani, tini, empetri, padi.

The investigators find that acids give a blue colour, or violet ; as the croton, violet and other vege-

tables. Blue colours turn brown from an acid, and green by the addition of an alkali.

Tournefort made use of paper, coloured blue, which served as a test to denote whether a plant was acid or alkaline.

The *economis use* of plants is most useful to mankind.

The uses of plants are for bread, food, drink, building utensils, instruments, which each botanist observes and describes.

The *Æconomic Flora* collects all these observations.

Our journeys describe these.

The use of plants, for the food of animals, should be most anxiously inquired after.

Our *Swedish Pan* has laid the foundation.

The uses of plants, shewing the œconomy of universal nature, should be anxiously explored.

In the science of nature, the principles of truth ought to be confirmed by observations.

CLASSES, ORDERS, AND GENERA

OF

LINNÆUS' PATHOLOGICAL PRINCIPLES.

His classes are six in number, namely :—

- | | |
|-----------------|----------------|
| 1. Evacuatoria. | 4. Muscularia. |
| 2. Alterantia. | 5. Visceralia. |
| 3. Nervina. | 6. Topica. |

CLASS 1. *Evacuatoria*—Evacuants.

ORDER 1. *Purgantia*—Purgatives.

- | | |
|------------------------|---------------------|
| GENUS 1. Emetica | Emetics. |
| 2. Drastica | Violent Purgatives. |
| 3. Cathartica | Gentle Purgatives. |
| 4. Eccoprotica .. | Laxatives. |

2. *Borborygmica*—Evacuants of Wind.

- | | |
|--------------------|-------------------|
| 5. Flatulentia ... | By the Rectum. |
| 6. Ructatoria | By the Œsophagus. |
| 7. Carminativa .. | Carminatives. |

3. *Pellentia*—Secernents from the Trunk.

- | | |
|---------------------|---|
| 8. Diaphoretica .. | Perspiratives. |
| 9. Sudorifica | Sudorifics. |
| 10. Diuretica | Diuretics. |
| 11. Emmenagoga.. | Emmenagogues. |
| 12. Abortiva | Medicines occasioning expulsion of the Fœtus. |

4. *Pituitosa*—Secernments from the Head.

- | | |
|----------------------|---------------------------|
| 13. Errhina | From the Nostrils. |
| 14. Sialagoga | From the Salivary Glands. |
| 15. Expectorantia .. | From the Bronchiæ. |

CLASS 2. *Alterantia*—Alteratives or Medicines supposed to purify the mass of Blood.

ORDER 1. *Discrasiaca*—Alteratives of the Fluids, as to their Acescency or Alkalescency.

- | | |
|----------------------|--|
| 16. Antiphlogistica | Correctors of Putrescency by Dilution. |
| 17. Refrigerantia .. | By acidity. |
| 18. Balsamica | By introduction of the Bitter Principle. |
| 19. Antacida | Correctors of Acescency by the Bitter Principle. |
| 20. Absorbentia .. | By Neutralization. |

ORDER 2. *Diathetica*—Alteratives of the Fluids, as to their Consistency and Crasis.

- | | |
|---------------------------|-------------------------|
| GENUS 21. Resolventia ... | Resolvents. |
| 22. Incidentia | Attenuants. |
| 23. Mundificantia.. | Purifiers. |
| 24. Edulcorantia .. | Correctors of Acrimony. |
| 25. Demulcentia .. | Demulcents. |
| 26. Obtundentia .. | Obtundents. |
| 27. Lubricantia.... | Mucilaginous Medicines. |
| 28. Inspissantia ... | Inspissants. |

CLASS 3. *Nervina*—Medicines which act on the Nervous System.

ORDER 1. *Orgastica*—Excitants of the Vital Functions.

- | | |
|----------------------|-----------------------------------|
| 29. Alexiteria | Giving a Fragrancy to the Breath. |
| 30. Stimulantia ... | Excitants of the Secretions. |
| 31. Calefacientia .. | Calefacients. |
| 32. Nutrientia | Restoratives. |
| 33. Analeptica | Invigorants. |

2. *Convulsiva*—Medicines occasioning Convulsive Affections.

- | | |
|----------------------|-------------------|
| 34. Tussiculosa ... | Of the Lungs. |
| 35. Singultuosa .. | Of the Cardia. |
| 36. Sternutatoria .. | Of the Diaphragm. |

3. *Excitantia*—Medicines producing an influence on the Mind.

- | | |
|----------------------|-------------------------|
| 37. Exhilarantia .. | Exhilarants. |
| 38. Inebriantia | Intoxicating Medicines. |

4. *Stupefacientia*—Stupefacients.

- | | |
|---------------------|----------------------------------|
| 39. Paregorica | Diminishing Irritability. |
| 40. Anodyna..... | Mitigating Pain. |
| 41. Narcotica | Oppressing the Mental Faculties. |
| 42. Hypnotica | Soporifics. |

CLASS 4. *Muscularia*—Medicines which act on the Muscular Fibres.

ORDER 1. *Relaxantia*—Relaxants.

GENUS 43. Humectantia .. By a Watery Quality.

44. Emollientia . . . By an Oily Quality.

45. Impinguantia.. By producing Fat.

2. *Corroborantia*—Corroborants.

46. Exsiccantia.... By a Drying Quality.

47. Tonica..... By a Bitter Quality.

48. Adstringentia.. By a Styptic Quality.

49. Sophisticantia.. Local Tonics.

3. *Corrodentia*—Corrodents.

50. Abstergentia .. Of the Animal Gluten.

51. Cosmetica Of the Skin.

52. Septica Caustics.

53. Vesicatoria Exulcerants; Vesicatorics.

CLASS 5. *Visceralia*—Medicines acting upon particular Viscera.

ORDER 1. *Spirituosa*—Excitants of the Nervous Energy.

54. Cephalică Cephalics.

55. Cardiacæ Cordials.

2. *Biliosa*—Augment the quantity of Bile.

56. Hepatica By acting upon the Liver.

57. Splenica By acting upon the Spleen.

58. Stomachica . . . Provoking Appetite.

3. *Mucagina*—Medicines which strengthen and lubricate the Lungs.

59. Becchica.

4. *Veneræa*—Medicines favouring Procreation.

60. Aphrodisiaca .. Provocatives to Venery.

61. Uterina Uterines.

62. Lactifera Increasing the Flow of Milk.

CLASS 6. *Topica*—Local Applications.

ORDER 1. *Consolidantia*—Repairing Solution of Continuity.

63. *Vulneraria* *Vulneraries*.

64. Glutinantia.... Promoting adhesive Inflammation.

65. *Maturantia* Promoting the formation of Pus.

66. Digerentia Digestives.

67. *Sarcotica*..... Promoting the formation of Flesh,
by removing extraneous Matter.

68. Cathæretica .. Reducing Proud Flesh.

69. *Cicatrisantia* .. Drying up consolidated Ulcers.

70. *Sistentia* Restraining the Flow of Blood.

ORDER 2. *Discutientia*—Discutients.

- GENUS 71. *Repellentia* ... Repellents.
 72. *Lactifuga* Diminishing the Secretion of Milk.
 73. *Sterilitantia* .. Preventing Impregnation.

3. *Arcentia*—Medicines noxious to Animalcules.

74. *Anthelmintica*.. To Worms.
 75. *Exanthematica*. To Acari and Pustular Animalcules.
 76. *Phthiriaca* To Lice.

At the end of the volume is a General Latin Index, a General Index of English and Latin Names, an Index of the Properties of Plants, and an Index Morborum, or Index of Diseases, which render this work extremely useful for reference.

CLASS I.—MONANDRIA.

Order 1.—MONOGYNIA.

1. AMOMUM. (Ginger.) *Nat : Order*, scitamineæ.
—ESSENTIAL CHAR: *Calyx* trifid, unequal, cylindrical. *Corolla* three-parted, unequal, spreading. *Nectary* two-lipped, almost erect.

A. ZINGIBAR.—SPECIFIC CHAR: *Scape* middle sized. *Spike* ovate. *Leaves* linear lanceolate.

Place.—East Indies, now Jamaica.

Quality.—Hot, acrid, aromatic, subfragrant.

Power.—Heating, stomachic, stimulant.

Use.—The root, in colic from lochia, diarrhœa, hysterics, stomach-cough.

Dose, from 3 to 20 gr. of the root in powder, taken in milk or mucilage. It has also been found particularly useful in gouty affections, and may be applied externally as a rubefacient with advantage.

2. AMOMUM. CARDAMOMUM. (Lesser Cardamon.)
—SPECIFIC CHAR: *Scape* very simple and short. *Bractes* alternate, loose.

Place.—Malabar, Ceylon.

Quality.—Acrid, aromatic, hot, fragrant.

Power.—Stimulant, creating warmth, nervous, expelling, emmenagogue, aphrodisiac.

Use.—The seeds, in want of appetite, debility.

There is a tincture prepared from the seeds of this plant, which have a pleasant aromatic warm flavour, which is chiefly extracted in this preparation. They are a warm cordial stomachic, and may be taken in powder from 5 to 10 gr. The dose of the tincture is from 1 to 3 dr. and both are frequently employed as correctors to medicines of the cold aperient class.

3. AMOMUM. GRANUM PARADISI. (Grains of Paradise.)—SPECIFIC CHAR: *Scape* branching, very short.

Place.—Madagascar, Guinea, Ceylon, in shady marshes at the foot of mountains.

Quality.—More pungent than the former.

Power.—Stimulant, heating.

Use.—The seeds, in paralysis.

This plant is used to give a heating quality to beer, being a wicked adulteration, rendering it to some constitutions highly inflammatory, especially to children at the breast, by receiving the poisonous contents through the milk of their nurses.

4. COSTUS. (Costus.) *Nat: Order*, scitamineæ.
—ESSENTIAL CHAR: *Corolla* inner, inflated, ringent, the lower lip trifid.

C. ARABICUS.—SPECIFIC CHAR: *Leaves* silky underneath.

Place.—Malabar, Ceylon, Braziles, Surinam.

Quality.—Acrid, aromatic, hot, fragrant, giving the urine the smell of violets.

Power.—Stimulant, heating, diaphoretic, emmenagogue.

Use.—The root, in paralysis.

Dose, half a dram.

5. MARANTA. (Galangale.) *Nat: Order*, scitamineæ.—ESSENTIAL CHAR: *Calyx* three leaved. *Corolla* trifid. *Nectary* three-parted; the third part bearing the anther on its upper side.

M. GALANGA.—SPECIFIC CHAR: *Stem* simple, *leaves* lanceolate.

Place.—East Indies, Phillipine Islands.

Quality.—Acrid, aromatic, more pungent than ginger, fragrant.

Power.—Heating, stimulant, stomachic, emmenagogue, sternutatory.

Use.—The root, in hiccup, vertigo, vomiting at sea, colic from the lochia, herpes.

The root of this plant by preparation forms what is called the Indian arrow root of the shops; because it is supposed that taken inwardly it cures the wound of an arrow poisoned with the manchineal tree; and it is much used as a nutritive and agreeable diet, especially for the sick.

6. **CURCUMA.** *Nat: Order*, scitamineæ.—**ESSENTIAL CHAR:** *Stamens* four barren, a fifth fertile. *Corolla* four-parted. *Nectary* three-lobed, filament flat.

C. LONGA.—**SPECIFIC CHAR:** *Leaves* lanceolate, the lateral nerves most numerous.

Place.—Amboynia, Malabar, Ceylon.

Quality.—Bitter, diuretic, dyes a yellow.

Power.—Resolving, expelling, emmenagogue.

Use.—The root, in jaundice, emaciation, dropsy.

Used to colour puddings.

7. **KÆMPFERIA.** (Zedoary.) *Nat: Order*, scitamineæ.—**ESSENTIAL CHAR:** *Corolla* six-parted, three of the parts longer, spreading, one two-parted. *Stigma* two-plated.

K. ROTUNDA.—**SPECIFIC CHAR:** *Leaves* lanceolate, petioled, segments of the *corolla* linear.

Place.—Ceylon, Malabar.

Quality.—Subacrid, aromatic, slightly fragrant.

Power.—Stimulant, heating, nervous, stomachic, sudorific, emmenagogue, anthelmintic.

Use.—The root and seeds, in hysterics, asthma, nausea, worms.

The dose in powder from 3 to 30 gr. or an aqueous infusion as tea.

8. **SALICORNIA.** (Glasswort.) *Nat: Order*, horacæa.—**ESSENTIAL CHAR:** *Calyx* ventricose entire. *Petal* none. *Stamen* one or two. *Seed* one covered by the calyx.

S. HERBACEA.—SPECIFIC CHAR: *Joints* compressed emarginate, internodes obconical.
Spikes peduncled, attenuated towards the top.

Place.—Europe, Sweden.

Quality.—Saline.

Power.—Stimulant, diuretic, emmenagogue.

Use.—The soda, in scabies, abscess, dropsy and obesity.

Marine vegetables, when burnt, furnish considerable quantities of soda, which may be given in doses from 10 to 30 gr.

CLASS II.—DIANDRIA.

Order 1.—MONOGYNIA.

9. JASMINUM. (Jasmin.) *Nat : Order*, sepiariæ.
—**ESSENTIAL CHAR :** *Corolla* salver-shaped.
Berry dicoccous. *Seeds* solitary, arilled.

J. OFFICINALE.—*Leaves* opposite pinnate, leaflets acuminate. *Buds* almost upright.

Place.—East Indies.

Quality.—Fragrant.

Power.—Narcotic, anodyne.

Use.—The flowers, in difficult parturition.

It is also used as a scent for pomatum.

10. OLEA. (Olive.) *Nat : Order*, sepiariæ.—**ESSENTIAL CHAR :** *Corolla* four cleft, with sub-
borate segments. *Drupe* one seeded.

O. EUROPÆA.—**SPECIFIC CHAR :** *Leaves* lanceo-
late.

Place.—Spain, France, Italy, warm climates.

Quality.—Fatty, mild, insipid, inodorous ; when
cooked austere.

Power.—Blunting, emollient ; when cooked tonic,
stomachic.

Use.—The expressed oil, in poisons, colic, dys-
sentery, rheumatism, tenesmus, cough ; the
bite of rabid animals and the viper.

This oil is also employed in forming plasters and unguents ;
and is said, being spread over the body, to cure the plague.

11. VERONICA. (Speedwell.) *Nat: Order*, personatæ.—*ESSENTIAL CHAR: Corolla* four cleft, wheel-shaped, with the lowest segment narrower.

V. OFFICINALIS.—*SPECIFIC CHAR: Spikes* lateral, peduncled. *Leaves* opposite. *Stem* procumbent.

Place.—Dry woods of Europe.

Quality.—Substiptic.

Power.—Subastringent, vulnerary, tonic, pectoral.

Use.—The herb, in wastings, asthma, cough.

The expressed juice may be drank to the quantity of four table spoonful three times a day; or the herb used as a beverage for tea.

12. VERONICA. (Becabunga or Brooklime.)—*SPECIFIC CHAR: Racemes* lateral. *Leaves* ovate, flat. *Stem* repent.

Place.—In the ditches of Europe.

Quality.—Almost insipid, without smell, oleraceous.

Power.—Diuretic, discutient.

Use.—The herb, in the scurvy.

The leaves of this plant have an herbaceous, slight, bitterish taste; and the juice is rather saponaceous: hence it seems to be designed by nature to sheath the acrimonious qualities of more acrid plants. The juice may be used in large quantities, or the fresh plant eaten as food.

13. GRATIOLA. (Hedge-Hyssop.) *Nat: Order*, personatæ.—*ESSENTIAL CHAR: Calyx* seven leaved, the two outer leaves patulous. *Corolla* irregular, reversed. *Stamens* two barren.

G. OFFICINALIS.—*SPECIFIC CHAR: Flowers* peduncled. *Leaves* lanceolate, serrated.

Place.—South of Europe.

Quality.—Bitter, nauseous.

Power.—Purging, vomiting, emmenagogue, anthelmintic.

Use.—The herb, in dysentery, hydrocephalus.

The dose to be gradually increased from 5 to 10 gr. or more in powder: the extract is equally efficacious; 10 gr. of the herb and 5 gr. of gentian root, three times a day, have been given with success in quartan agues.

14. VERBENA. (Vervain.) *Nat: Order*, personatæ.—*ESSENTIAL CHAR: Corolla* funnel-shaped, almost equal, curved. *Calyx*, one of the teeth truncate. *Seeds* two or four, naked or very thinly arilled. *Stamens* two or four.

V. OFFICINALIS.—*SPECIFIC CHAR: Stems* four. *Spikes* filiform, paniculated. *Leaves* multifid-laciniated. *Stem* solitary.

Place.—South of Europe.

Quality.—Rather insipid, inodorous.

Power.—Astringent, vulnerary.

Use.—The herb, in ophthalmia.

Anciently used in incantations, or magic.

15. MONARDA. (Purple Monarda.) *Nat: Order*, verticillatæ.—*ESSENTIAL CHAR: Corolla* irregular, the upper lip linear, involving the filaments. *Seeds* four.

M. FISTULOSA.—*SPECIFIC CHAR: Heads* terminal. *Stem* obtuse-angled.

Place.—Canada.

Quality.—Bitter.

Power.—Resolving, nervous, tonic.

Use.—The herb, in intermittent fevers.

16. ROSMARINUS. (Rosemary.) *Nat: Order*, verticillatæ.—*ESSENTIAL CHAR: Corolla* unequal, with the upper lip two-parted. *Filaments* long, curved, simple with a tooth.

R. OFFICINALIS.—*SPECIFIC CHAR: None.*

Place.—France and Spain.

Quality.—Exciting, tonic, cephalic, stomachic, resolving.

Use.—The herb and seeds, in syncope, asthma, hysterics, chlorosis, apoplexy, tertian ague.

An essential oil is procured from it by distillation, possessing all the properties of the plant. The dose is from 10 gr. to half a dram. The tops and flowers are used as tea, for nervous headaches, sinkings, and vertigoes.

17. SALVIA. (Sage.) *Nat: Order*, verticillatæ.—
ESSENTIAL CHAR: *Corolla* unequal. *Filaments* fastened transversely to a pedicle.

S. OFFICINALIS. *Leaves* lanceolate, ovate, notched. *Flowers* spiked.

Place.—Italy, France, and England.

Quality.—Bitter.

Power.—Astringent, tonic, nervous, stomachic, uterine.

Use.—The herb, in languor, leucorrhœa, old age.

The best preparation of sage is an infusion of dried leaves, drunk as tea, or the expressed juice, a dessert spoonful of which may be taken twice a day.

18. SALVIA. (Horminum.)—**SPECIFIC CHAR:** *Leaves* obtusely-crenate; the upper *bractææ* sterile, large, coloured.

Place.—Apulia, Greece.

Quality.—Bitterish, mucilaginous.

Power.—Obtunding.

Use.—The seeds, in ophthalmia.

19. SALVIA. SCLAREA. (Clammy Sage.) **SPECIFIC CHAR:** *Leaves* wrinkled, cordate, oblong, villous, serrated. *Bractææ* longer than the calyx, concave, acuminate, coloured.

Place.—Syria, Italy.

Quality.—Astringent.

Power.—Stronger than the former, stimulant, exhilarating, sternutatory, resolving.

Use.—The herb, in leucorrhœa, hysterics, colic.

20. **COLLINSONIA.** (Knob-root.) *Nat: Order,* personatæ.—**ESSENTIAL CHAR:** *Corolla* unequal. *Calyx* of the fruit one-leaved, toothed; of the flower trifid. *Seed* one, under the calyx of the flower.

C. CANADENSIS.—**SPECIFIC CHAR:** *Leaves* and *Stem* smooth.

Place.—Virginia, Canada.

Quality.—Like the smell of putrid meat.

Use.—The root, in the colic from the lochia.

Order 3.—TRIGYNIA.

21. **PIPER.** (Pepper.) *Nat: Order,* piperitæ.—**ESSENTIAL CHAR:** *Calyx* none. *Corolla* none. *Berry* one seeded.

P. NIGRUM.—**SPECIFIC CHAR:** *Leaves* ovate, seven-nerved, petioled, very simple.

Quality.—Acrid, hot.

Power.—Heating, stimulating, stomachic, against hiccup, sternutatory, aphrodisiac, febrifuge.

Use.—The fruit, in tertian agues, tooth-ache, falling down of the uvula, and lice.

The dose is from 5 gr. to a scruple. The white pepper is the same fruit as the black deprived of its external coat by maceration in water when perfectly ripe.

22. **PIPER. LONGUM.** (Long Pepper.)—**SPECIFIC CHAR:** *Leaves* cordate, petioled, and sessile.

Place.—East Indies.

Quality.—Acrid, hot.

Power.—Heating, stimulant, stomachic.

Use.—In the tertian ague, flatulency, and hiccup.

It is seldom administered alone in this country, but merely to give warmth to other medicines, especially when we wish to overcome flatulency. Dose from 10 gr. to half a dram. This is much stronger than the former.

CLASS III.—TRIANDRIA.

Order 1.—MONOGYNIA.

23. VALERIANA. (Valerian.) *Nat*: Order, aggregatæ.—*ESSENTIAL CHAR*: *Calyx* none. *Corolla* one-petalled, gibbous on one side of the base, superior. *Seed* one.

V. OFFICINALIS.—*SPECIFIC CHAR*: *Flowers* three-stamen'd. *Leaves* pinnate.

Place.—In the marshy meadows of Europe.

Quality.—Invites goats and cats, smell nauseous, bitter.

Power.—Narcotic, antispasmodic, sudorific, purging, diuretic.

Use.—The root, in epilepsy, hysterics, hæmoptysis, ulcers.

The best mode of exhibiting valerian is in substance, mixed with some aromatic powder, to prevent its nauseating effects. Dose from 1 to 2 dr. in water or milk. The powder is much used in epileptic and paralytic affections, in doses from half a dr. to 2 dr. three or four times a day; also as an antispasmodic, and more particularly in the hemicrania. The root should be dug up in spring or autumn.

24. VALERIANA. PHU. (Garden Valerian.)—*SPECIFIC CHAR*: *Flowers* triandrous. *Leaves* cauline, pinnate, radical, undivided.

Place.—Alsace, France.

Quality.—As the last.

Power.—As the former.

The root as the last.

25. VALERIANA. CELTICA. (Celtic Valerian.)—*SPECIFIC CHAR*: *Flowers* triandrous. *Leaves* oblong, ovate, obtuse, most entire.

Place.—The Alps.

Quality.—Fragrant, acrid, aromatic.

Power.—Diuretic.

Use.—The root and flowers antispasmodic, diuretic, anthelminthic.

26. TAMARINDUS. (Tamarind.) *Nat : Order*,
 lomentaceæ.—ESSENTIAL CHAR: *Calyx* four-
 parted. *Petals* three. *Nectarium* two short
 bristles under the filaments. *Legume* pulpy.

T. INDICA.

Place.—Both Indies, Egypt, Arabia.

Quality.—Very acid.

Power.—Cooling.

Use.—The pulp of the fruit, in ardent and putrid fevers, in diarrhœa, dysentery, and jaundice,

The pulp of the fruit may be taken from 3 drams to an ounce or more; it proves gently laxative, quenches thirst, and allays immoderate heat.

27. CROCUS. SATIVUS. (Saffron.) *Nat : Order*,
 ensatæ.—ESSENTIAL CHAR: *Corolla* six-
 parted, equal. *Stigmas* convolute.

C. OFFICINALIS.—SPECIFIC CHAR: *Spatha* one-
 valved, radical. Tube of the *corolla* exceed-
 ingly long.

Place.—England, Europe, the Alps.

Quality.—Fragrant, somewhat aromatic, milky, diuretic, affording a yellow dye.

Power.—The stigmata, anodyne, antispasmodic, exhilarating, resolving, uterine, expelling, emmenagogue, driving out eruptions, urinary, producing milk.

Use.—In jaundice, difficult menstruation, vomiting, dysentery, colic from the lochia, cough, difficulty of passing urine, ophthalmia.

There is a tincture and extract made of it. The syrup may be taken from 1 to 2 dr., and the tincture the same.

28. IRIS. (Iris.) *Nat: Order, ensatæ.*—ESSENTIAL CHAR: *Corolla* six-petalled, unequal. *Petals* alternate, jointed, and spreading. *Stigmas* petal-form, cowled, two-lipped.

I. FLORENTINUS. — SPECIFIC CHAR: *Corolla* bearded. *Stem* with leaves higher than the flowers, often two-flowered; flowers sessile.

Place.—Italy.

Quality.—Very fragrant.

Power.—Cutting, errhine, expectorant.

Use.—In cough, pains in children.

The fresh root is a powerful cathartic; and for this purpose its juice has been employed in the dose of a dr., and upwards, in dropsies.—Used to scent hair powder.

29. IRIS. GERMANICA. (German Iris.)—SPECIFIC CHAR: *Corolla* bearded. *Stem* with long leaves, many-flowered; the inferior flowers peduncled.

Place.—Germany, France.

Quality.—Acrid.

Power.—Diuretic, hydragogue, emmenagogue, errhine, and subemetic.

Use.—The root, in dropsy, swelling of the legs.

Dose, as the last.

30. IRIS. PSEUDOACORUS. (Yellow Flag.)—SPECIFIC CHAR: *Corolla* beardless. Interior *Petals* less than the stigmata. *Leaves* ensiform.

Place.—Marshes of Europe.

Quality.—Insipid, rather stiptic.

Power.—Astringent.

Use.—The root, in scurvy, debility of the stomach.

This is so powerful an astringent, that it has been used instead of galls, in the making of ink; and from this quality it has been successfully used as a medicine for the cure of diarrhœa. When given with this intention, the root must be well dried; for in its fresh state it is a powerful cathartic.—Dose from 1 to 2 dr.

31. IRIS. TUBEROSA. (Tuberous.) — SPECIFIC CHAR: *Corolla* without beard. *Leaves* four-cornered.

Place.—Syria, Arabia.

Quality.—Inodorous, acrid.

Power.—Purging.

Use.—The root, in rheumatism, gout, and blindness

Tournefort and Miller will have that the root was the COLCHICUM ILLYRICUM. — The I. FÆTIDISSIMA has a stem one-angled, and has been called *Gladiolus Fœtidus*; has the same purgative quality, and is distinguished by its fœtid smell. It is used in hysterics, and scrofula.

32. CYPERUS. (Cyperus.) *Nat: Order*, calamariæ. — ESSENTIAL CHAR: *Glumes* chaffy, imbricate in two rows. *Corolla* none. *Seed* one, naked.

C. LONGUS.—SPECIFIC CHAR: *Stem* triquetrous, leafy. *Umbel* leafy, cut above. *Peduncles* naked. *Spikes* alternate.

Place.—France, Marshes of Italy.

Quality.—Fragrant, bitter, hot.

Power.—Diuretic, emmenagogue.

Use.—The root, in ulcers of the bladder, the womb, and mouth.

Dose from 1 to 3 dr.

33. CYPERUS. ROTUNDUS. (Round Cyperus.) — SPECIFIC CHAR: *Stem* three-sided, nearly naked. *Umbel* decomposed. *Spikes* alternate, linear.

Place.—Egypt, Syria.

Quality.—As the last.

Power.—Same as the last, but weaker.

Order 2.—DIGYNIA.

34. SACHARUM. (Sugar Cane.) *Nat: Order*, gramineæ.—*ESSENTIAL CHAR: Calyx* two-valved, involucred with a long lanugo: *Corolla* two-valved. *Leaves* flat.

S. OFFICINARUM.—*SPECIFIC CHAR: Flowers* panicled.

Place.—Both Indies, where it is inundated.

Quality.—Very sweet, inodorous, most mild.

Power.—Softening, relaxing, expectorating, nourishing.

Use.—The juice, granulated, made white, and in a syrup, in hoarseness, cough.

35. PHALARIS. (Canary Grass.) *Nat: Order*, gramineæ.—*ESSENTIAL CHAR: Calyx* two-valved, keeled; the valves equal in length, inclosing the *corolla*.

P. CANARIENSIS.—*SPECIFIC CHAR: Panicle* subovate. *Glumes* keeled.

Place.—The Canary Islands, Spain.

Quality.—Farinaceous.

Power.—Nourishing.

Use.—The seeds are given to birds.

36. PANICUM. (Millet.) *Nat: Order*, gramineæ.—*ESSENTIAL CHAR: Calyx* two-valved, the third valve very small.

P. MLIACEUM.—*SPECIFIC CHAR: Panicle* lax, flaccid. *Vagina* of the leaves pubescent.

Place.—India.

Quality.—Farinaceous, insipid.

Power.—Nourishing, flatulent.

37. AVENA. (Oat.) *Nat: Order*, Gramineæ.—
ESSENTIAL CHAR: *Calyx* two-valved; many
flowered; one from the back of the *corolla*
jointed, twisted.

A. SATIVA.—SPECIFIC CHAR: *Calyx* paniced
Seeds two, smooth.

Place.—Asia.

Quality.—Farinaceous, insipid.

Power.—More cooling than barley.

Use.—In fevers, the meal being made into gruel.

The gruel is also applied over the vesications of erysipelas.

38. HORDEUM. (Barley.) *Nat: Order*, gramineæ.
—ESSENTIAL CHAR: *Calyx* lateral, two-
valved; (valves narrow, acuminate, distant,
altogether forming a six-leaved involucre);
one-flowered by threes at each toothlet of the
rachis.

H. DISTICHUM.—SPECIFIC CHAR: the lateral
flowers, males, beardless. *Seeds* angular, im-
bricated.

Place.—Unknown.

Quality.—Farinaceous, insipid.

Power.—Nourishing, cooling, when acid most
cooling.

Use.—In inflammatory diseases, and coughs.

39. TRITICUM. (Wheat.) *Nat: Order*, Gramineæ.
—ESSENTIAL CHAR: *Calyx* two-valved, so-
litary, subtriflorous, (or many-flowered on a
flexnose-toothed *rachis*). *Corolla* blunt, with
a central point.

T. HYBERNUM.—SPECIFIC CHAR: *Calyx* four-
flowered, ventricose, smooth, imbricated,
subawned.

Place.—Unknown.

Quality.—Farinaceous, insipid.

Power.—Mucilaginous, acescent.

Use.—Internally as food, and outwardly applied as powder in the form of starch.

40. TRITICUM. (Repens.) Creeping.—SPECIFIC
CHAR: *Root* repent. *Leaves* flat.

Place.—Europe, on the road sides.

Quality.—Mild, inodorous.

Power.—Nourishing, diuretic, aperient, cleansing, anthelmintic.

Use.—The root, in sterility, and obstructions of the viscera.

CLASS IV.—TETRANDRIA.

Order 1.—MONOGYNIA.

41. SCABIOSA. (Devil's Bit.) *Nat: Order*, aggregatæ.—*ESSENTIAL CHAR: Calyx* common, many-leaved; proper, double, superior. *Receptacles* chaffy or naked.

S. SUCCISA.—*SPECIFIC CHAR: Corolla* four-cleft, equal. *Stem* simple. *Branches* approximate. *Leaves* lanceolate-ovate.

Place.—The marshes of Europe.

Quality.—Sweet, somewhat bitterish.

Power.—Somewhat astringent.

Use.—The root and herb, in the sore throat.

Dose, from 1 to 1 and a half dr.

42. SCABIOSA. ARVENSIS. (Corn Scabious).—*SPECIFIC CHAR: Corolla* four-cleft, radiant. *Leaves* pinnatifid, gashed. *Stem* hispid.

Place.—The meadows and fields of Europe.

Quality.—Weak.

Power.—Diluting.

Use.—The root, in eruptions, scabies.

43. HEDYOTIS. (Hedyotis.) *Nat: Order*, stellatæ.—*ESSENTIAL CHAR: Corolla* monopetalous, funnel-shaped. *Caps* two-celled, many-seeded, inferior.

H. AURICULARIA.—*SPECIFIC CHAR: Leaves* lanceolate-ovate. *Flowers* verticillate.

Quality.—Fragrant.

Use.—The herb, in deafness.

44. ASPERULA. (Wood-roof.) *Nat: Order*, stellatæ.—*ESSENTIAL CHAR: Corolla* one-petalled, funnel-shaped. *Seeds* two, globular.

A. ODORATA.—*SPECIFIC CHAR: Leaves* eight in a whorl, lanceolate. *Flowers* in bunches, peduncled.

Place.—The shady woods of Europe.

Quality.—Ambrosiac.

Power.—Diluting, diuretic.

Use.—The herb, in eruptions, scabies, and jaundice.

Dose—the expressed juice may be taken in quantities from 1 to 3 table spoonful at a time.

45. GALIUM. (Cheese-rennet.) *Nat: Order*, stellatæ.—*ESSENTIAL CHAR: Corolla* one-petalled, flat. *Seeds* two, roundish.

G. VERUM.—*SPECIFIC CHAR: Leaves* in eights, linear, grooved. *Flowering branches* short.

Place.—European meadows.

Quality.—Fragrant.

Power.—Curdling milk.

Use.—The herb, rather the top, in hysterics, epilepsy, difficulty in the passing of water.

46 RUBIA. (Dyers' Madder.) *Nat: Order*, stellatæ.—*ESSENTIAL CHAR: Corolla* one-petalled, bell-shaped. *Berries* two, one seeded.

R. TINCTORUM.—*SPECIFIC CHAR: Leaves* annual. *Stem* with prickles at the angles.

Place.—Montpelier, and meadows of the Danube.

Quality.—Styptic, red.

Power.—Astringent, expelling, diuretic, forming a dye, staining the urine and bone.

Use.—The root, in contusions.

Dose, given in substance, half a dr. two or three times a day.

47. PENÆA. (Penæa.)—ESSENTIAL CHAR: *Calyx* two-leaved.. *Corolla* bell-shaped. *Style* quadrangular. *Capsule* four-cornered, four-celled, eight-seeded.

P. MUCRONATA.—SPECIFIC CHAR: *Leaves* cordate, acuminate,

Place.—Ethiopia.

Quality.—A gum, resinous, staining a reddish colour, friable, somewhat sweet and bitter, acrid, inodorous.

Power.—Vulnerary, purging.

Use.—Gum sarcocolla is used in wounds, ophthalmia.

48. PLANTAGO. (Plantain.) *Nat: Order*, plantagines.—ESSENTIAL CHAR: *Calyx* four-cleft. *Corolla* four-cleft, with the border reflex. *Stamina* very long. *Capsule* two-cells, cut transversely.

P. MAJOR. — SPECIFIC CHAR: *Leaves* ovate, smoothish, shorter than the petiole. *Scape* round. *Spike* having the flowers imbricate. *Seeds* very many.

Place.—Europe.

Quality.—Insipid, herbaceous, somewhat styptic.

Power.—Astringent, vulnerary.

Use.—The root, herb, and seeds, in ulcers, diarrhœa.

The *Plantago Major* and *Lanceolata* have the same properties. The *Psythium* is used only for its seeds, as mucilaginous, in hoarseness, and gargarisms.—1 or 2 oz. of the expressed juice, or the like quantity of a strong infusion, may be given for a dose.

49. SANGUISORBIA. (Burnet.) *Nat: Order*, miscellaniæ.—*ESSENTIAL CHAR: Calyx* two-leaved, inferior. *Corolla* superior. *Stamen* between the calyx and corolla.

S. OFFICINALIS.—*SPECIFIC CHAR: Spikes* ovate. *Place*.—Europe

Quality.—Astringent, tonic.

Power.—Astringent, tonic.

Use.—The root, in hæmorrhage, dysentery, hydrophobia.

Two or 3 oz. of the expressed juice, or a strong infusion of the like quantity, may be given for a dose.

50. FAGARA. (Fagara.) *Nat: Order*, dumosæ.—*ESSENTIAL CHAR: Calyx* four-cleft. *Corolla* four-petalled. *Caps* two-valved, with one seed.

F. PTEROTA.—*SPECIFIC CHAR: Leaves* emarginate.

Place.—Jamaica, Philipine Islands.

Quality.—Somewhat acrid, aromatic.

Power.—Heating, drying, stomachic.

Use.—The berry, for want of appetite.

Has an affinity to the laurel, with the winged leaves of the jasmine, and the wood has nearly the hardness of iron.

51. TRAPA. (Trapa.)—*ESSENTIAL CHAR: Calyx* four-parted. *Corolla* four-petalled. *Nut* girt with opposite spines, which were the leaves of the calyx.

T. NATANS.—*SPECIFIC CHAR: Nuts* four-horned. *Spines* spreading.

Place.—Limy marshes.

Quality.—Mild, farinaceous.

Power.—Nourishing, astringent.

Use.—The fruit, in pleurisy.

52. DORSTENIA. (Dorstinia.) *Nat: Order*, scabridæ.—*ESSENTIAL CHAR: Receptacles* common, one leafed, fleshy, in which solitary seeds nestle.

D. CONTRAJERVA. — *SPECIFIC CHAR: Scapes* rooted. *Leaves* pinnatifid-palmate, serrated. *Receptacles* quadrangular.

Place.—Peru, Mexico.

Quality.—Aromatic, subfragrant, bitter.

Power.—Astringent, stomachic, sudorific.

Use.—The root, in all fevers, especially eruptive, dysentery.

53. CAMPHOROSMA. (Ground Pinc.) *Nat: Order*, holoraceæ.—*ESSENTIAL CHAR: Calyx* pitcher-form; two of the teeth opposite, and the alternate ones very small. *Corolla* none. *Caps* one-seeded.

C. MONSPELIACA.—*SPECIFIC CHAR: Leaves* hirsute.

Place.—The South of Europe.

Quality.—Subaromatic

Power.—Nervous, diuretic, sudorific, resolvent, vulnerary, cephalic.

Use.—The herb, in dropsy, hysterics, coryza, leucorrhœa, asthma, rheumatism.

Dose, in the infusion, from half an oz. to an oz. and a half.

54. ALCHEMILLA. (Alpine Ladies' Mantle.) *Nat: Order*, senticosæ.—*ESSENTIAL CHAR: Calyx* eight-cleft. *Corolla* none. *Seed* one.

A. VULGARIS.—*SPECIFIC CHAR: Leaves* digitate, serrate.

Place.—The dry meadows of Europe.

Quality.—Styptic, inodorous.

Power.—Vulnerary.

Use.—The root and herb, in dysentery.

Order 2.—DIGYNIA.

55. CUSCUTA. (Dadder.)—ESSENTIAL CHAR: *Calyx* four-cleft. *Corolla* one-petalled. *Caps* two-celled.

C. EUROPÆA.—SPECIFIC CHAR: *Flowers* conglomerate, sessile. *Corolla* pitcher-shaped, with bluntish segments; number of parts, generally four.

Place.—Europe, a paresitical plant.

Quality.—Somewhat sour, and rather acrid, inodorous.

Power.—Stimulating, aperient.

Use.—The herb, in intermitting fevers.

Order 4.—TETRAGYNIA.

56. ILEX. (Common Holly.) *Nat: Order*, dumosæ.
—ESSENTIAL CHAR: *Calyx* four-toothed. *Corolla* wheel-shaped. *Style* none. *Berry* four-seeded.

I. CASSINE.—SPECIFIC CHAR: *Leaves* lanceolate, oblong, serrate.

Place.—Carolina, Virginia.

Quality.—Subaromatic, inodorous.

Power.—Expectorating.

Use.—The leaves, in small pox, diabetes.

CLASS V.—PENTANDRIA.

Order 1.—MONOGYNIA.

57. LITHOSPERMUM. (Gromwell.) *Nat: Order, asperifoliæ.*—ESSENTIAL CHAR: *Calyx* five-cleft. *Corolla* funnel-form, perforated at the throat, naked.

L. OFFICINALE.—SPECIFIC CHAR: *Seeds* smooth and even. *Corolla* scarcely longer than the *calyx*. *Leaves* lanceolate.

Place.—Europe.

Quality.—Insipid, inodorous.

Power.—Absorbing, astringent, diuretic.

Use.—The seeds, in dropsy.

58. ANCHUSA. (Buglos.) *Nat: Order, asperifoliæ.*—ESSENTIAL CHAR: *Corolla* funnel-shaped, the throat closed with an arch of scales. *Seeds* engraved at the base.

A. OFFICINALIS,—SPECIFIC CHAR: *Leaves* lanceolate. *Spikes* imbricate, pointing one way.

Place.—The gravelly meadows of Europe.

Quality.—Mucilaginous, olaraceous.

Power.—Cordial, exhilarating.

Use.—The herb, in melancholy, hypochondriasis.

59. CYNOGLOSSUM. (Hounds-tongue.) *Nat: Order, asperifoliæ.*—ESSENTIAL CHAR: *Corolla* funnel-form, the throat closed in arches. *Seeds* flat, affixed to the style to the inside only.

C. OFFICINALE. — SPECIFIC CHAR: *Stamens* shorter than the corolla. *Leaves* broad, lanceolate, attenuated to the base, tomentose, sessile. *Calycine segments* oblong.

Place.—In the highways of Europe.

Quality.—Mucilaginous, strong-smelling.

Power.—Astringent, somewhat narcotic, antipthysical.

Use.—The root and herb, in coughs, and hoarseness.

60. PULMONARIA. (Lung-wort.) *Nat: Order*, asperifoliæ.—ESSENTIAL CHAR: *Calyx* prismatic, five-cornered. *Corolla* funnel-formed, with an open throat.

T. OFFICINALIS.—SPECIFIC CHAR: *Leaves* hirsute. *Stem-leaves* ovate, oblong. *Root-leaves* subcordate.

Place.—At the foot of the mountains of Europe.

Quality.—Mucilaginous, oleraceous.

Power.—Obtunding.

Use.—The herb, in spitting of blood.

61. SYMPHYTUM. (Comfrey.) *Nat: Order*, asperifoliæ.—ESSENTIAL CHAR: *Corolla* border tubular-ventricose. *Throat* closed by lanceolate rays.

S. OFFICINALE.—SPECIFIC CHAR: *Leaves* ovate, lanceolate, decurrent.

Place.—South of Europe.

Quality.—Mucilaginous.

Power.—Blunting, agglutinate, vulnerary, astringent.

Use.—In spitting of blood, diarrhœa, dysentery, strangury, and bloody water.

62. BORAGO. (Borage.) *Nat: Order*, asperifoliæ.
—ESSENTIAL CHAR: *Corolla* rotate, throat closed with rays.

B. OFFICINALIS.—SPECIFIC CHAR: all the *leaves* alternate. *Calyx* spreading.

Place.—Britain.

Quality.—Oleraceous.

Power.—A cordial, exhilarating.

Use.—The herb and flowers, in melancholy.

63. PRIMULA. (Primrose.) *Nat: Order*, preciæ.
—ESSENTIAL CHAR: *Involucre* an umbellet. *Corolla-tube* cylindrical, with a spreading mouth.

P. VERIS.—SPECIFIC CHAR: *Leaves* toothed, wrinkled; border of the *corolla* flat.

Place.—European meadows.

Quality.—Fragrant, oleraceous.

Power.—Narcotic, exhilarating, anodyne, nervous, sternutatory.

Use.—The root, herb, and flowers, in vertigo, paralysis, epilepsy, head-ache, and tooth-ache.

64. CYCLAMEN. (Cyclamen.) *Nat: Order*, preciæ.
—ESSENTIAL CHAR: *Corolla* rotate, reflex, with a very short tube, and prominent throat. *Berry* covered with a capsule.

C. EUROPÆUM.—SPECIFIC CHAR: *Leaves* orbicular, cordate, crenate. *Corolla* bent back.

Place.—The shady groves in Austria, and Pannonia.

Quality.—Mucilaginous, bitter.

Power.—Purging, a drastic emmenagogue.

Use.—The root, externally applied, resolving, in scirrhus.

Dose—from half a dr. to a dr.

65. **MENYANTHES.** (Buck-bean.) *Nat: Order,* *preciaë.*—**ESSENTIAL CHAR:** *Corolla* shaggy. *Stigma* bifid. *Caps* one-celled.

M. TRIFOLIATA.—**SPECIFIC CHAR:** *Leaves* ternate.

Place.—The marshes of Europe.

Quality.—Most bitter.

Power.—Balsamic, tonic, saponaceous, diuretic, anthelminthic.

Use.—The herb, in scurvy, hypochondriasis, rheumatism, ague, and herpetic diseases.

The leaves may be given in powder from 1 to 2 scruples, two or three times a day; but a strong infusion of them is perhaps preferable.

66. **LYSIMACHIA.** (Loosestrife.) *Nat: Order,* *rotaceæ.*—**ESSENTIAL CHAR:** *Corolla* wheel-shaped. *Caps* globular, mucronate, five-valved. *Receptacles* free. *Seeds* with a ventral nave, opposite to the embryo.

S. NUMULARIA.—**SPECIFIC CHAR:** *Leaves* subcordate. *Flowers* solitary. *Stem* creeping.

Place.—Europe.

Quality.—Somewhat acid, subacid.

Power.—Saponaceous, somewhat astringent, vulnerary.

Use.—The herb, in menorrhagia, leucorrhœa, internal wounds.

67. **ANAGALLIS.** (Pimpernel.) *Nat: Order,* *rotaceæ.*—**ESSENTIAL CHAR:** *Corolla* rotate. *Caps* opening horizontally.

A. ARVENSIS. *Leaves* ovate. *Stem* procumbent.

Place.—The fields of Europe.

Quality.—Acrid, inodorous,

Use.—The herb, in melancholy, hydrophobia.

68. SPIGELIA. (Worm-grass.) *Nat: Order*, stellatae.—*ESSENTIAL CHAR: Corolla* funnel-shaped. *Caps* twin, two-celled, many-seeded.

S. ANTHELMIA.—*SPECIFIC CHAR: Stem* herbaceous. *Uppermost leaves* in fours.

Place.—Brazil, lately in Jamaica.

Quality.—Fœtid.

Power.—Narcotic, expelling, against worms.

Use.—The herb, in the lumbrici.

Dose.—From half a scruple to a whole one.

69. OPHIORRHIZA. (Serpent-root.) *Nat: Order*, stellatae.—*ESSENTIAL CHAR: Corolla* funnel-form. *Germen* bifid. *Stigmata* two. *Fruit* two-lobed.

O. MUNGOS.—*SPECIFIC CHAR: Leaves* lanceolate-ovate.

Place.—Java, Ceylon, Sumatra.

Quality.—Most bitter.

Power.—Expelling.

Use.—The root, in venomous bites, hydrophobia, canine madness, putrid fever.

70. PLUMBAGO. (Lead-wort.)—*ESSENTIAL CHAR: Corolla* funnel-form. *Stamina* inserted into scales inclosing the base of the corolla. *Stigma* five-cleft. *Seed* one, oblong, tunicated.

P. EUROPEA. — *SPECIFIC CHAR: Leaves* embracing, lanceolate, rough.

Place.—South of Europe.

Quality.—Acrid, septic.

Power.—Caustic.

Use.—The root, in tooth-ache.

71. CONVULVULUS. (Bindweed.) *Nat: Order,* campanacææ. — *ESSENTIAL CHAR: Corolla* bell-shaped; plaited. *Stigmas* two. *Caps* two-celled, with two *seeds* in each cell.

C. SCAMMONIÆ.—*SPECIFIC CHAR: Leaves* sagittate, truncate behind. *Peduncles* round, bearing about three *flowers*.

Place.—Levant.

Quality.—Acrid, bitter, nauseous, gumresinous.

Power.—Purging.

Use.—The root, as a purgative, in the form of a pill, in costive habits.

Dose—from 3 to 12 gr.

72. CONVULVULUS. (Turpethum.) — *SPECIFIC CHAR: Leaves* cordate, angular. *Stem* membranaceous, quadrangular. *Peduncles* many-flowered.

Place.—Ceylon, Malabar.

Quality.—Gummy, nauseous.

Power.—Purging slowly.

Use.—In dropsy, and gout.

Dose—Root, from half a dram to a whole one.

73. CONVULVULUS. (Jalapa.)—*SPECIFIC CHAR: Leaves* ovate, obscurely obtuse, spreading, villose underneath. *Peduncles* one-flowered.

Place.—America.

Quality.—Nauseous, acrid.

Power.—Purging.

Use.—The root, in cold habits, and for worms in children.

Jalap, in substance, taken in a dose of about half a dr., operates as an effectual and safe purgative; or a scruple of the extract.

75. CONVULVULUS, (Mechoacanna.)—SPECIFIC
 CHAR: *Stem* climbing. *Leaves* cordate. *Fruit*
 large, woolly.

Place.—South America.

Quality.—Inodorous.

Power.—Opening, safe.

Use.—Root, for infants, and in œdema.

Dose—from a scruple to half a dram.

75. CONVULVULUS. (Soldanella.) — SPECIFIC
 CHAR: *Leaves* kidney-shaped. *Peduncles*
 one-flowered.

Place.—England, on the sea-shore.

Quality.—Nauseous, acrid.

Power.—Drastic, hydragogue.

Use.—The herb, in dropsy.

Dose—from 1 to 2 dr. of the powder.

76. CINCHONA. (Peruvian Bark.) *Nat: Order*,
 contortæ.—ESSENTIAL CHAR: *Caps* inferior,
 two-celled, bipartite; the valves parallel to
 the partitions, opening inwardly.

C. OFFICINALIS.—SPECIFIC CHAR: *Leaves* ovate,
 lanceolate, smooth. *Capsules* oblong.

Place.—Peru.

Quality.—Intensely bitter.

Power.—Tonic, astringent, strengthening; also
 sometimes purging, antiseptic.

Use.—The bark in powder, in want of appetite,
 swelling of the legs, decays of nature, gan-
 grene, hystèrics, small-pox, phthisis, scro-
 phula, convulsive coughs.

Dose—in powder, from half a dr. to two dr.

77. COFFEA. (Coffee.) *Nat: Order*, stellatæ.—
 ESSENTIAL CHAR: *Corolla* salver-shaped.
Stamina upon the tube. *Berry* inferior, two-
 seeded. *Seeds* arilled.

C. ARABICA.—SPECIFIC CHAR: *Flowers* five-cleft. *Berries* two-seeded.

Place.—Arabia the Happy, Jamaica.

Quality —Burnt, empyreumatic.

Power.—Drying, exciting, heating, expelling, carminative, diuretic, antivenereal, anthelmintic.

Use.—In corpulency, drowsiness, lowness of spirits, calculus, in hurts, in hypochondriasis, hysterics, melancholy, and diseased eyes.

78. LONICERA. (Honey-suckle.) *Nat: Order*, aggregatæ.—ESSENTIAL CHAR: *Corolla* one-petalled, irregular. *Berry* many-seeded, two-celled, inferior.

L. PERICLYMENUM.—*Flowers* ringent, terminating whorls. *Leaves* deciduous, all distinct.

Place.—South of Europe, Holland.

Quality.—Disagreeable in taste.

Power.—Vulnerary, cleansing.

Use.—Tops of the stem, in ophthalmia, a gargle in sore throats.

79. LONICERA. SYMPHORICARPOS. (St. Peter's Wart.)—SPECIFIC CHAR: *Heads* lateral, peduncled. *Leaves* petioled.

Place.—Virginia, Carolina.

Quality.—Styptic.

Power.—Substringent.

Use.—The tops of the stems, in intermittent fevers.

80. LONICERA. (Diervilla.) Yellow-flowered.—SPECIFIC CHAR: *Branches* terminal. *Leaves* serrate.

Place.—Canada.

Quality.—Nauseous.

Power —Expelling.

Use.—In difficulty of passing water, gonorrhœa, syphilis.

81. CORIS. (Coris.) *Nat: Order*, —
 —ESSENTIAL CHAR: *Corolla* one-petalled, irregular. *Calyx* spinous, five-valved, superior.

C. MONSPELIENSIS.—SPECIFIC CHAR: none.

Place.—France, Crete.

Quality.—Most bitter, nauseous.

Power.—Expelling.

Use.—The herb, in syphilis.—Decoction.

82. VERBASCUM. (Mullein.) *Nat: Order*, *luridæ*.
 —ESSENTIAL CHAR: *Corolla* wheel-shaped, a little unequal. *Caps* two-celled, two-valved.

V. THAPSUS.—SPECIFIC CHAR: *Leaves* decurrent, tomentose on both sides. *Stem* simple.

Place.—In the sandy woods of Europe.

Quality.—Somewhat odorous, bitter.

Use.—The herb and flowers, in hæmoptysis, hæmorrhages, warts at the anus, coughs, phthisis.

A decoction, prepared of 2 oz. of the leaves with a quart of water, of which 4 oz. may be given every three hours, in hæmorrhages.

83. VERBASCUM (Nigrum.)—SPECIFIC CHAR:
Leaves oblong, cordate, petioled.

Place.—Europe.

Quality.—Insipid, mucilaginous.

Power.—Stupifying, emollient.

Use.—The root, in whitlows.

84. DATURA. (Thorn-apple.) *Nat: Order*, *luridæ*.
 —ESSENTIAL CHAR: *Corolla* funnel-form, plaited. *Calyx* tubular, angular, deciduous. *Caps* four-valved.

D. STRAMONIUM. — SPECIFIC CHAR: *Pericarp* spinous, erect, ovate. *Leaves* ovate, smooth.

Place.—The highways in the South of Europe.

Quality.—Bitter, poisonous, seeds insipid,

Power.—Narcotic, producing phantasies of the brain, madness.

Use.—In asthma.

Dose—the herb, from 1 to 5 gr.; extract from half a gr. to 5 gr.

85. HYOSCYAMUS. (Henbane,) *Nat: Order*, *luridæ*.—ESSENTIAL CHAR: *Corolla* funnel-form, obtuse. *Stamens* inclined. *Caps* two-celled, covered with a lid.

H. NIGER.—SPECIFIC CHAR: *Leaves* stem-clasping, sinuate *Flowers* sessile.

Place.—In the highways throughout Europe.

Quality.—Somewhat insipid.

Power.—Narcotic, like the *Datura*.

Use.—In paralysis, convulsions, mania, epilepsy, spitting of blood; the smoke, to relieve tooth-ache.

Dose—the juice, from 1 to 5 gr.; the tincture, from 20 to 40 drops.

86. NICOTIANA. (Tobacco.) *Nat: Order*, *luridæ*.—ESSENTIAL CHAR: *Corolla* funnel-form, with a plaited border. *Stamina* inclined. *Caps* two-valved, two-celled.

N. TABACUM.—SPECIFIC CHAR: *Leaves* lanceolate-ovate, sessile, decurrent. *Flowers* acute.

Place.—America.

Quality.—Nauseous, poisonous.

Power.—Anodyne, antispasmodic, narcotic, producing phantasies, repelling, errhine.

Use.—The leaf, in wounds, scabies, tinea, cough ; the smoke, in constipation of the bowels ; the syrup, in asthma, colic, hysterics, dysentery, jaundice, dropsy.

87. **ATROPHA.** (*Belladonna*.)—SPECIFIC CHAR :
Stem herbaceous. *Leaves* ovate, entire.

Place.—Germany, England.

Quality.—Somewhat insipid, poisonous.

Power.—Narcotic, producing phantasies, anodyne, antispasmodic, repellent.

Use.—The leaves and berries, in dysentery, carcinoma, fistula, prolapsus ani, convulsions, and epilepsy.

88. **ATROPA.** (*Mandragora*.)—SPECIFIC CHAR :
Stem scaped, one-flowered.

Place.—Spain, and Crete.

Quality.—Same as the last.—Called *Mandrake*, and *Mandragora*.

89. **PHYSALIS.** (*Winter Cherry*.) *Nat: Order*,
luridæ.—ESSENTIAL CHAR: *Corolla* wheel-shaped. *Stamina* converging. *Berry* within an inflated calyx, two-celled.

P. ALKEKENGII. — SPECIFIC CHAR: *Leaves* in pairs, entire, ending acute. *Stem* herbaceous, panicled at top.

Place.—South of Europe.

Quality.—Acid.

Power.—Somewhat anodyne, diuretic, refrigerant.

Use.—The herb, berry, and seeds, in the gout, difficulty of passing water, inflammation.

Dose—from 6 to 12 berries ; or an oz. of their expressed juice.

90. SOLANUM. (Nightshade.) *Nat: Order*, *luridæ*.

—*ESSENTIAL CHAR*: *Corolla* wheel-shaped. *Anthers* subcoalescent, opening at top by a double pore. *Berry* two-celled.

S. DULCAMERA.—*SPECIFIC CHAR*: *Stem* unarmed, fructescent, flexuose. *Upper leaves* hastate. *Racemes* cymed.

Place.—The moist hedges of Europe.

Quality.—Nauseous, somewhat sweet.

Power.—Anodyne, repelling, diuretic.

Use.—The tops, in contusions, rheumatism, arthritis, jaundice, pleurisy, peripneumony, asthma, scabies, difficult menstruation.

A decoction, prepared from an oz. of the stalks, boiled in a pint and a half of water to a pint; 1 or 2 oz. of which may be given twice a day.

91. SOLANUM. (Nigrum.) — *SPECIFIC CHAR*:

Branches round. *Leaves* quite entire, hirsute. *Stem* unarmed, herbaceous. *Leaves* ovate, tooth-angular. *Racemes* distichous, nodding.

Place.—The high roads of Europe.

Quality.—Poisonous.

Power.—Anodyne.

Use.—The herb, in phlegmons, whitlows, scirrhus, wounds.

92. CAPSICUM. (Indian Pepper.) *Nat: Order*,

luridæ.—*ESSENTIAL CHAR*: *Corolla* rotate. *Berry* exauccous.

C. ANNUUM.—*SPECIFIC CHAR*: *Stem* herbaceous. *Peduncles* solitary.

Place.—The Brazils, Mexico, Barbadoes.

Quality.—Acrid, septic.

Power.—Rubefacient, stimulating.

Use.—The fruit, in asthma, intermittent fevers.

Dose—of the powder, from 5 to 10 gr.; of the tincture, from 1 to 2 dr.

93. STRYCHNOS. (Poison Nut.) *Nat: Order*, luridæ.—*ESSENTIAL CHAR: Corolla* five-parted. *Berry* one-celled, with a woody rind.

S. NUX VOMICA. — *SPECIFIC CHAR: Leaves* ovate. *Stem* unarmed.

Place.—Malabar, Ceylon.

Quality.—Poisonous, bitter.

Power —Emetic, expelling worms.

Use.—The nut, in colic, gonorrhœa, intermittent fevers, tænia, the bite of serpents.

It may be given as a tonic and anodyne in doses, from 5 to 10 gr., after proper laxatives have been employed. Dogs are frequently poisoned with this nut.

94. STRYCHNOS. (Bean of Ignatius.)—*SPECIFIC CHAR: Leaves* ovate, acute, five-nerved. *Fruit* very large.

S. IGNATII.

Place.—The Philippine Islands.

Quality.—Most bitter.

Power.—Tonic, narcotic, emmenagogue, anthelmintic.

Use.—The fruit, in intermittent fevers, asthma, and worms.

95. STRYCHNOS. (Snakeroot.)—*SPECIFIC CHAR: Leaves* ovate, acute. *Tendrils* simple.

S. COLUBRINA.

Place.—Malabar.

Quality.—Suspicious, acrid, most bitter.

Power.—Emetic, creating madness.

Use.—The root, in venomous bites, and intermittent fevers, especially quartans.

Dose—from a dr. to half an oz.

96. **CORDIA.** (*Cordia.*) *Nat: Order*, asperifoliæ.
 —**ESSENTIAL CHAR:** *Corolla* funnel-form.
Style dicotomous. *Drupe* with two or four-celled nuts.

C. MYXA. — **SPECIFIC CHAR:** *Leaves* ovate, smooth on the upper surface. *Corymbs* lateral. *Calyx* ten-striated.

Place.—Egypt, Malabar.

Quality.—Mucilaginous, sweet.

Power.—Nourishing, lubricating, astringent.

Use.—The nut, in hoarseness, coughs, strangury.

97. **RHAMNUS.** (*Buckthorn.*) *Nat: Order*, dumosæ.—**ESSENTIAL CHAR:** *Calyx* tubular. *Corolla* scales defending. The *stamens* inserted into the calyx.

R. CATHARTICUS.—**SPECIFIC CHAR:** *Spines* terminating. *Flowers* quadrifid, dioicous. *Leaves* ovate. *Stem* erect. *Berry* four-seeded.

Place.—In the hedges of Europe.

Quality.—Bitter.

Power.—Purging.

Use.—The berry, in dropsy, syphilis, decays.

A syrup is used for an aperient for children. Dose — from half an oz. to a whole one; or 2 dr. of the berry.

98. **RHAMNUS.** (*Frangula.*)—**SPECIFIC CHAR:** *Flowers* bisexual, one-styled. *Leaves* entire, smooth. *Berry* four-seeded.

Place.—Moist places of Europe.

Quality.—Bitter.

Power.—Purging.

Use.—The bark, in dropsy, scabies, humid asthma, varix of the anus.

Dose—of the infusion of the bark half an oz.

99. RHAMNUS. (Zizyphus.)—SPECIFIC CHAR: *Prickles* in pairs, onerecurved. *Leaves* ovate, retuse, toothed, smooth.

Place.—Italy, Verona.

Quality.—Mild, mucilaginous.

Power.—Blunting, lubricating, expectorating.

Use.—The berry, in coughs, strangury.

There is a syrup made of the berries.

100. CEANOTHUS. (New Jersey Tea.) *Nat: Order*, dumosæ.—ESSENTIAL CHAR: *Petals* five, vaulted. *Berry* dry, three-celled, three-seeded.

C. AMERICANUS.—SPECIFIC CHAR: *Leaves* three-nerved.

Place.—Virginia, Carolina.

Quality.—Diuretic,

Power.—Purifying.

Use.—The summits in syphilis.

101. RIBES. (Currants.) *Nat: Order*, pomaceæ.—ESSENTIAL CHAR: *Petals* five, inserted with the *stamens* into the *calyx*, *Style* bifid. *Berry* many-seeded, inferior.

R. RUBRUM.—SPECIFIC CHAR: *Racemes* smooth, nodding. *Petals* obcordate. *Leaves* obtusely five-lobed. *Stem* erect.

Place.—Over all Europe.

Quality.—Acid.

Power.—Cooling.

Use.—The fruit, in inflammatory and putrid fevers, thirst.

102. RIBES. (Nigrum.)—SPECIFIC CHAR: *Racemes* loose, hairy, pendulous. *Peduncle* simple at the base. *Flowers* bell-shaped. *Bractes* shorter than the *pedicles*. *Leaves* dotted underneath.

Place.—Over Europe.

Quality.—Somewhat acid.

Power.—Anodyne, diuretic, purifying.

Use.—The berry, in angina, eruptive fevers, madness, hydrophobia, dysentery, the bite of serpents.

103. **HEDERA.** (Ivy.) *Nat: Order*, hederaceæ.—
ESSENTIAL CHAR: *Petals* five, oblong. *Berry* five-seeded, surrounded by the *calyx*.

H. HELIX.—**SPECIFIC CHAR:** *Leaves* ovate, undivided.

Place.—The South of Europe, England.

Quality.—Leaves bitter, berry acid.

Power.—Vulnerary.

Use.—The leaves, in gout and ulcers; the bark, in rickets, atrophy.

Dose—in powder, from half a dr. to 1 dr. three times a day.

104. **VITIS.** (The Vine.) *Nat: Order*, hederaceæ.—
ESSENTIAL CHAR: *Petals* cohering at the top, shrivelling. *Berry* two or five-seeded, superior.

V. VINIFERA.—**SPECIFIC CHAR:** *Leaves* lobed, sinuate, naked.

Place.—All the temperate parts of the world.

Quality.—Leaves acid, rather styptic.

Power.—Subastringent.

Use.—The red wine, in intermittent and putrid fevers, and as a corroborant.

105. **LAGOECIA.** (Cumin.) *Nat: Order*, umbellatæ.—**ESSENTIAL CHAR:** *Involucrum* universal and partial. *Petals* bifid. *Seeds* solitary, inferior.

L. CUMINOIDES.—**SPECIFIC CHAR:** *Heads* globular.

Place.—Crete.

Quality.—Aromatic.

Power.—Stomachic.

Use.—The herb and seeds, in dyspepsia.

106. ALLAMANDA. (Allamanda.) *Nat: Order*, contortæ.—*ESSENTIAL CHAR: Corolla* contorted. *Caps* lens-shaped, erect, echinate, one-celled, two-valved, many-seeded.

A. CATHARTICA.—*SPECIFIC CHAR: Flowers* very large.

Place.—On the shores of Guinea.

Quality.—Milky, bitter.

Power.—Cathartic, tonic.

Use.—Leaves, the infusion, in the painters' colic.

107. VINCA. (Periwinkle.) *Nat: Order*, contortæ.—*ESSENTIAL CHAR: Corolla* contorted. *Follicles* two, erect. *Seeds* naked.

V. MINOR.—*SPECIFIC CHAR: Stems* procumbent. *Leaves* lanceolate-ovate. *Flowers* peduncled.

Place.—Europe.

Quality.—Bitter, inodorous.

Power.—Astringent.

Use.—The herb, as a gargle, an astringent.

Dose—from 1 dr., to 1 and a half dr. in powder; but the decoction is preferable.

108. NERIUM. (Rose-bay.) *Nat: Order*, contortæ.—*ESSENTIAL CHAR: Corolla* contorted, with the tube, terminated by a lacerated crown. *Follicles* two, erect.

N. ANTIDYSENTERICUM.—*SPECIFIC CHAR: Leaves* ovate, acuminate, petioled.

Place.—Malabar, Ceylon.

Quality.—Lactescent, acrid.

Power.—Anthelminthic.

Use.—The bark, in diarrhœa, dysentery.

109. PLUMERIA. (Plumeria.) *Nat: Order*, contortæ.—*ESSENTIAL CHAR: Follicles* two, reflex. *Seeds* inserted into their proper membrane.

P. ALBA.—*SPECIFIC CHAR: Leaves* lanceolate, revolute. *Peduncles* tuberos above.

Place.—The Caribee Islands.

Quality.—Milky.

Power.—Vulnerary.

Use.—The root, in syphilis.

Order 2.—DIGYNIA.

110. ASCLEPIAS. (Swallowwart.) *Nat: Order*, contortæ.—*ESSENTIAL CHAR: Corolla* contorted. *Nectaries* five, ovate, concave, putting out a little horn.

A. VINCETOXICUM. — *SPECIFIC CHAR: Leaves* ovate, bearded at the base. *Stem* erect. *Umbells* proliferous.

Place.—Sandy parts of Europe.

Quality.—Milky, against poison.

Power.—Expelling, diuretic, sudorific, emmenagogue.

Use.—Root and herb, in dropsy, small-pox.

Dose—in powder, from a scruple to a dr.; or an infusion of 3 or 4 dr.

111. HERNIARIA. (Smooth Rupturewort.) *Nat: Order*, holoracææ.—*ESSENTIAL CHAR: Calyx* five-parted. *Corolla* none. *Stamens* five barren, besides the fertile ones. *Caps: one-seeded*.

H. GLABRA.—*SPECIFIC CHAR: herbaceous*, and smooth.

Place.—The dry places of Europe.

Quality.—Inodorous, insipid.

Power.—Astringent, diuretic.

Use.—The herb, in hernia, calculus, dropsy, and ophthalmia.

Dose—in powder, 1 dr. twice a day; or an infusion of 4 or 5 dr.

112. CHENOPODIUM. (Goosefoot.) *Nat: Order*, holoraceæ.—*ESSENTIAL CHAR: Calyx* five-leaved, five-cornered. *Corolla* none. *Seed* one, lenticular, superior.

C. BONUS HENRICUS. (Good King Henry.)—*SPECIFIC CHAR: Leaves* triangular, sagittate, quite entire. *Spikes* compound, leafless, axillary.

Place.—Europe.

Quality.—Oleraceous.

Power.—Cooling, vulnerary.

Use.—The herb, in gout, pleurisy, phthisis, œdema.

113. CHENOPODIUM. RUBRUM. (Red Goosefoot.)—*SPECIFIC CHAR: Leaves* cordate, triangular, bluntish, toothed. *Racemes* erect, compound, somewhat leafy, shorter than the stem.

Place.—The high roads of Europe.

Quality.—Watery.

Use.—Doubtful.

114. CHENOPODIUM. BOTRYS. (Cut-leaved Goosefoot.)—*SPECIFIC CHAR: Leaves* oblong, sinuate. *Racemes* naked, multifid.

Place.—Catalonia, Russia.

Quality.—Fragrant.

Power.—Somewhat inebriating, carminative, emmenagogue, anthelminthic, antispasmodic.

Use.—The herb and seed, in asthma, phthisis, difficult breathing, convulsive cough.

115. **CHENOPODIUM. ANTHELMINTHICUM.** (Worm-seed Goosefoot.)—**SPECIFIC CHAR:** *Leaves* ovate, oblong, toothed. *Racemes* leafless.

Place.—Pensylvania.

Quality.—Strong-smelling, fragrant.

Power.—Anthelmintic.

Use.—The seeds, in the lumbrici.

Dose—from 2 dr. to half an oz.

116. **CHENOPODIUM. FÆTIDUM.** (Stinking Goosefoot.)—**SPECIFIC CHAR:** *Leaves* quite entire, rhomboid, ovate. *Flowers* conglomerate, axillary.

Place.—The cultivated spots of Europe.

Quality.—A goatly smell.

Power.—Antispasmodic.

Use.—The herb, in hysterics.

117. **BETA.** (Beet.) *Nat: Order,* holoraceæ.—**ESSENTIAL CHAR:** *Calyx* five-leaved. *Corolla* none. *Seeds* kidney-form, within the substance of the base of the calyx.

B. VULGARIS.—**SPECIFIC CHAR:** *Flowers* heaped. *Leaflets* of the calyx toothed at the base.

Place.—The shores of the South of Europe.

Quality.—Aqueous, sweet, somewhat aromatic.

Power.—Diluting, softening, errhine, the juice of the root.

Use.—The herb and root, in ophthalmia, dry cough, head-ache, tooth-ache.

Dose—from 4 to 6 spoonsful of the juice.

118. BETA. CICLA. (White Garden-beet.)—
SPECIFIC CHAR: *Flowers* three-fold. *Leaflets*
of the calyx unarmed at the base.

Place, quality, power, and use, as the former.

119. ULMUS. (The Elm.) *Nat: Order*, scabridæ.
—ESSENTIAL CHAR: *Calyx* five-cleft, infe-
rior, permanent. *Corolla* none. *Capsules* mem-
branaceous, compressed, flat, one-seeded.

U. CAMPESTRIS. — SPECIFIC CHAR: *Leaves*
doubly serrate, unequal at the base.

Place.—Groves of Europe.

Quality.—Softening.

Power.—Astringent, vulnerary.

Use.—The middle bark, in ascites, wounds, burns,
scabies.

Take 4 oz. of the bark, to which add 4 pints of water; boil
to 2 pints. Dose—from 1 to 2 pints daily.

120. GENTIANA. (Gentian.) *Nat: Order*, Rotaceæ.
—ESSENTIAL CHAR: *Corolla* monopetalous.
Capsules superior, two-valved, one-celled, with
two longitudinal receptacles.

G. LUTEA.—SPECIFIC CHAR: *Corolla* five-cleft,
rotate, verticillate. *Calyx* spathaceous.

Place.—The Alps.

Quality.—Most bitter.

Power.—Balsamic, tonic, stomachic, anthelmin-
thic.

Use.—The root, in wastings, rheumatism, gout,
jaundice, intermittents, calculus, wounds.

Take of the gentian root, sliced, a dr., to which add a dr. of
orange-peel and 12 oz. of boiling water; let it stand, lightly
covered, for an hour and a half. Dose—from 1 oz. to 2 oz.

121. GENTIANA. (Centaurium.) — SPECIFIC
CHAR: *Flowers* alternate, sessile. *Corolla*
five-cleft, funnel-shaped.

Place.—The moist meadows of Europe.

Quality.—Most bitter.

Power.—Balsamic, tonic, stomachic.

Use.—The flowering-heads, in declines, jaundice, tertians, gout, hypochondriasis, scabies.

122. GENTIANA. AMARELLA. (Autumnal Gentian.) *Corolla* five-cleft, salver-shaped, throat bearded.

Place.—The dry meadows of Europe.

Quality.—Bitter.

Power.—Balsamic, tonic.

Use.—The herb, in declines, tertians, pleurisy.

123. ERYNGIUM. (Eryngo.) *Nat: Order*, Umbellatæ.—*ESSENTIAL CHAR: Flowers* in a head. *Receptacles* chaffy.

E. FŒTIDUM.—*SPECIFIC CHAR: Root-leaves* lanceolate, serrate. *Floral-leaves* multifid. *Stem* dichotomous.

Place.—The hot parts of America.

Quality.—Most foetid.

Power.—Purging, diaphoretic, diuretic, emmenagogue, antihysteria.

Use.—The herb, in hysterics, fevers, dropsy.

124. ERYNGIUM. CAMPESTRE. (Field Eryngo.)
—*SPECIFIC CHAR: Root-leaves* stem-clasping, pinnate, lanceolate.

Place.—Germany, Italy, Spain—dry meadows.

Quality.—Subaromatic, watery.

Power.—Diuretic, emmenagogue.

Use.—The herb and root, in calculus.

Dose—a dr. of the powder with half a dr. of wild carrot-seed.

125. SANICULA. (Sanicle.) *Nat: Order*, umbellatæ.—*ESSENTIAL CHAR: Umbells* clustered, subcapitate. *Fruit* rugged. *Flowers* of the disk abortive.

S. EUROPEÆA.—*SPECIFIC CHAR: Root-leaves* simple, florets all sessile.

Place.—Europe.

Quality.—Subinsipid, inodorous.

Power.—Resolvent, astringent.

Use.—The herb, vulnerary.

Applied to ulcers as a poultice.

126. BUPLEURUM. (Thoroughwax.) *Nat: Order*, umbellatæ.—*ESSENTIAL CHAR: Involucres* of the umbellule large, five-leaved. *Petals* of the corolla involuted. *Fruit* roundish, compressed, striated.

B. ROTUNDIFOLIUM.—*SPECIFIC CHAR: Universal involucres* none. *Leaves*, or rather *Stem*, perfoliate.

Place.—The fields of the South of Europe.

Quality.—Subaromatic.

Power.—Subastringent, vulnerary.

Use.—Herb and seeds, in hernia.

Dose—from 1 to 2 dr. of the powder.

127. TORDYLIUM. (Hartwort.) *Nat: Order*, umbellatæ.—*ESSENTIAL CHAR: Corolla* radiate, all bisexual. *Fruit* suborbicular, notched at the edge. *Involucres* long, undivided.

T. OFFICINALE.—*SPECIFIC CHAR: Involucres* length of the flowers. *Leaflets* ovate, gashed, crenate. *Stem* pubescent.

Place.—Italy, Montpelier.

Quality.—Aromatic, weak.

Power.—Diuretic, carminative.

Use.—The seeds, in dropsy,

128. DAUCUS. (Wild Carrot.) *Nat: Order*, umbellatæ. *Corolla* subradiate, all bisexual. *Fruit* hispid with hairs.

D. CAROTA. — SPECIFIC CHAR: *Seeds* hispid. *Petioles* nerved underneath.

Place.—Fields of Europe.

Quality.—Aqueous, aromatic, fragrant.

Power.—Nourishing, diuretic, carminative, emmenagogue, anthelmintic.

Use.—The seeds, in strangury, calculus, lumbrici.

Dose, of the seeds, from 10 gr. to a dr.

129. CONIUM. (Hemlock.) *Nat: Order*, umbellatæ.—ESSENTIAL CHAR: *Partial involucre* halved, three-leaved. *Fruit* nearly globular, five-streaked, notched on each side.

C. MACULATUM. *Seeds* striated.

Place.—Fields of Europe.

Quality.—Nauseous.

Power.—Narcotic, diuretic, promoting suppuration.

Use.—The leaves in scirrhus, scrophula, ulcers, scabies, gonorrhœa, leucorrhœa.

The powdered leaves are preferable to the extract. Dose—
from 2 to 15 gr. or more.

130. ANTHAMANTA. (Spignel.) *Nat: Order*, umbellatæ.—ESSENTIAL CHAR: *Seeds* hispid. *Leaves* finely pinnated.

A. CRETINIS.—*Leaves* linear, flat, hirsute. *Petals* two-parted. *Seeds* oblong, hirsute.

Place.—The Alps.

Quality.—Acrid, aromatic.

Power.—Carminative, diuretic, emmenagogue.

Use.—The seeds, in flatulency, cough.

131. PEUCEDANUM. (Sulphurwort.) *Nat: Order*, umbellatæ.—*ESSENTIAL CHAR: Fruit* ovate, striated on both sides, girt with a membrane. *Involucres* very short.

P. OFFICINALE.—*SPECIFIC CHAR: Leaves* five-times three-parted, filiform, linear.

Place.—Meadows of France, England and Germany.

Quality.—Warm.

Power.—Resolving, nervous, diuretic, emmenagogue.

Use.—The root, in ulcers, tooth-ache, hemicrania.

132. FERULA. (Fennel.) *Nat: Order*, umbellatæ.—*ESSENTIAL CHAR: Fruit* oval, plane, compressed, with three streaks on each side.

F. ASAFÆTIDA.—*SPECIFIC CHAR: Leaves* alternately sinuate, obtuse.

Place.—Persia.

Quality.—Gum-resinous, smelling like onions.

Power.—Resolving, carminative, expelling, diaphoretic, emmenagogue, antispasmodic, anthelminthic.

Use.—In hysterics, asthma, tympany.

Dose, of the tincture, from half an oz. to 2 oz.

133. LASERPITIUM. (Laserwort.) *Nat: Order*, umbellatæ.—*ESSENTIAL CHAR: Petals* bent in, emarginate, spreading. *Fruit* oblong, with eight membranaceous angles.

L. LATIFOLIUM.—*SPECIFIC CHAR: Leaflets* cordate, gash-serrate.

Place.—The dry meadows of Europe.

Quality.—Bitter, acrid, aromatic, warm.

Power.—Tonic, resolving, diuretic, emmenagogue, stomachic.

Use.—The root, in the tertian.

134. LASERPITIUM. SILER. (Mountain Laserwort.)—SPECIFIC CHAR: *Leaflets* oval, lanceolate, quite entire, petioled.

Place.—The mountains of Switzerland.

Quality.—Having the odour and taste of cummin, but less powerful.

Power.—carminative, diuretic, emmenagogue, stomachic.

Use.—The seed, in the colic, from the lochia, and tooth-ache.

135. LIGUSTICUM. (Lovage.) *Nat: Order*, umbellatæ.—ESSENTIAL CHAR: *Fruit* oblong, five-grooved on both sides. *Corolla* equal, with involute entire petals.

L. LEVISTICUM.—SPECIFIC CHAR: *Leaves* multiplied. *Leaflets* gashed at top.

Place.—The Alps.

Quality.—Hot, acrid.

Power.—Emmenagogue, carminative, driving out eruptions.

Use.—Root, herb, and seed, in hysterics.

The leaves may be eaten as sallad, and the root may be employed in powder.

136. ANGELICA. (Angelica.) *Nat: Order*, umbellatæ.—ESSENTIAL CHAR: *Fruit* roundish, angular, solid, with reflexed *styles*. *Corollas* equal, with *petals* bent inwards.

A. ARCHANGELICA. — The odd *leaflets* of the leaves lobed.

Place.—Alps, particularly Lapland.

Quality.—The root, acrid, fragrant, aromatic, hot.

Power.—Stomachic, sudorific.

Use.—The root, in eruptive fevers.

This is one of the most pleasant aromatics of European growth.

137. ANGELICA. SYLVESTRIS. (Wild Angelica.)

—SPECIFIC CHAR: *Leaflets* equal, ovate, lanceolate, serrate.

Place.—The Alps.

Quality.—The herb and seeds, acrid, fragrant, aromatic, warm.

Power.—Stomachic, sudorific, carminative.

Use.—The root, in hysterics.

138. SIUM. (Water Parsnep.) *Nat: Order*, umbellatæ.—ESSENTIAL CHAR: *Involucres* many-leaved. *Petals* cordate. *Fruit* subovate, striated.

S. NINSI. — SPECIFIC CHAR: *Leaves* pinnate, floral-leaves ternate.

Place.—Japan.

Quality.—Somewhat sweet and aromatic.

Power.—Cordial

Use.—The root, in debility, and old age.

Decoction.—Three dr. of the root to a pint and a half of water, boil to a pint. Dose, from 3 to 5 oz. The *Sium Nodiflorum* has been found very efficacious in the cure of obstinate cutaneous diseases. Dose of the juice, from 1 to 3 oz.

139. SISON. (Bastard Stone-parsley.) *Nat: Order*, umbellatæ. — ESSENTIAL CHAR: *Involucres* mostly four-leaved. *Fruit* ovate, striated.

S. AMMI.—SPECIFIC CHAR: *Leaves* tripinnate. *Root-leaves* linear. *Stem-leaves* bristle-shaped. *Stipular-leaves* longer.

Place.—Apulia.

Quality.—Aromatic.

Power.—Sudorific, carminative.

Use.—The seeds, in sterility.

Dose—from half a dr. to a dr.

140. BUBON. (Bubon.) *Nat: Order*, umbellatæ.
—*ESSENTIAL CHAR: Fruit* ovate, striated, villose.

B MACEDONICUM. — *SPECIFIC CHAR: Leaflets* rhombe-ovate, gashed, toothed, teeth acuminate. *Umbells* very numerous. *Seeds* rough with hairs.

Place.—Macedonia.

Quality.—Aromatic.

Power.—Carminative, diuretic, emmenagogue.

Use.—The seeds, in dyspepsia.

141. BUBON. GALBANUM. (Lovage-leaved Bubon.)
—*SPECIFIC CHAR: Leaves* rhomboid, toothed, smooth. *Umbells* few.

Place.—Æthiopia.

Quality.—Resinous, strong smelling.

Power.—Anodyne, antispasmodic, expelling, carminative, emmenagogue, expectorating, repelling, maturing.

Use.—The gum, in asthma, hysterics, tumours.

Dose, in the form of pills, or emulsion, to the extent of a dr. a day.

142. CUMINUM. (Cumin.) *Nat: Order*, umbellatæ.
—*ESSENTIAL CHAR: Involucres* four cleft. *Fruit* ovate, striated.

C. CYMINUM.

Quality.—Acrid, aromatic.

Power.—Carminative, diuretic, emmenagogue.

Use.—The seeds, in flatulent colic, hysteria, tympany, cold tumours.

In the form of a poultice.

143. **CICUTA.** (Hemlock.) *Nat: Order*, umbellatæ.
— **ESSENTIAL CHAR:** *Fruit* subovate, furrowed.

C. VIROSA.—*Umbells* opposite-leaved. *Petioles* margined, obtuse.

Place.—The marshes of Europe.

Quality.—Acrid, nauseous.

Power.—Narcotic, repelling.

Use.—The herb, in bubo, cureinoma, herpes.

Its best form is that of the powdered leaves, in a dose, at first of 2 or 3 gr. a day; which may be gradually increased to upwards of 2 dr. a day.

144. **CORIANDRUM.** (Coriander.) *Nat: Order*, umbellatæ.—**ESSENTIAL CHAR:** *Corolla* rayed. *Petals* inflexed, emarginate. *Involucres* universal, one-leaved. *Partial* halved. *Fruit* spherical.

Place.—Fields of Europe.

Quality.—Nauseous—to be suspected.

Power.—Carminative, driving away milk.

Use.—The seeds, in hysterics, tertian ague.

Half a dr. or a dr. of the seeds infused along with senna, correct both the odour and taste of it, and are equally powerful in obviating the griping that senna is very ready to produce.

145. **SCANDIX.** (Chervil.) *Nat: Order*, umbellatæ.—**ESSENTIAL CHAR:** *Florets* of the disk most commonly male. *Corolla* radiate. *Petals* emarginate. *Fruit* awl-shaped.

S. CEREFOLIUM.—**SPECIFIC CHAR:** *Seeds* grooved, angular.

Place.—Fields of Europe.

Quality.—Aromatic.

Power.—Antiphlogistic, resolvent, aperient, clearing, diuretic, productive of milk, vulnerary.

Use.—The herb, in dropsy, coughs, spitting of blood, phthisis, vertigo, piles.

Dose, of the juice, from 2 to 4 oz.

146. **CHÆROPHYLLUM.** SYLVESTRE. (Wild Chervil.)—SPECIFIC CHAR: *Stem* striated, the joints somewhat tumid.

Place.—The orchards of Europe, and road-sides.

Quality.—Somewhat foetid.

Power.—Somewhat poisonous, doubtful.

Use.—The herb, in gangrene.

In the form of poultice it is said to cure the gout.

47. **IMPERATORIA.** (Masterwort.) *Nat: Order*, umbellatæ.—ESSENTIAL CHAR: *Fruit* roundish, compressed, gibbose in the middle, surrounded by a margin. *Petals* inflex, emarginate.

I. OBSTRUTHIUM.

Place.—Mountains of Austria.

Quality.—Bitter, acrid, aromatic, warm.

Power.—Carminative, sudorific, emmenagogue.

Use.—The root, in flatulency, hysterics, colic, sterility, tertians, paralysis.

Half a dr. of the root in substance, and 1 dr. of it in infusion, may be taken twice a day.

148. **PASTINACA.** (Parsnep.) *Nat: Order*, umbellatæ.—ESSENTIAL CHAR: *Fruit* elliptic, compressed, flat. *Petals* involute, entire.

P. SATIVA. — SPECIFIC CHAR: *Leaves* simply pinnate.

Place.—Europe.

Quality.—Watery.

Power.—Diluting, nourishing, flatulent, diuretic.

Use.—The root and seeds, in tertian.

Dose—from 2 scruples to a dr.

149. PASTINACA. OPOPANAX. (Rough Parsnep.)

—SPECIFIC CHAR: *Leaves* bipinnate. *Leaflets* gashed at the base in front.

Place.—France, Italy, Sicily.

Quality.—Gum-resinous, acrid, strong-smelling.

Power.—Nervous, carminative, emmenagogue.

Use.—The gum, in old coughs, moist asthma, paralysis.

150. ANETHUM. (Common Dill.) *Nat: Order*, umbellatæ.—ESSENTIAL CHAR: *Fruit* subovate, compressed, striated. *Petals* involuted, entire.

A. GRAVEOLENS.—SPECIFIC CHAR: *Fruit* compressed.

Place.—Spain, Portugal.

Quality.—Subaromatic.

Power.—Carminative, producing milk.

Use.—The herb, flowers, and seeds, in colic, hiccup, vomiting.

Dose—from 10 gr. to a dr.

151. ANETHUM. FÆNICULUM. (Fennel.)—SPECIFIC CHAR: *Fruit* ovate.

Place.—France.

Quality.—Aromatic,

Power.—Resolving, expelling, carminative, producing milk.

Use.—The root and herb, in ophthalmia, vomiting, and the tormina of infants.

152. CARUM. (Caraway.) *Nat: Order*, umbellatæ.
—*ESSENTIAL CHAR: Fruit* ovate, oblong, striated. *Involucre* one-leaved. *Petals* keeled, inflexed, emarginate.

C. CARUI.

Place.—The meadows of Europe.

Quality.—Acrid aromatic, warm.

Power.—Resolving, carminative.

Use.—The seeds, in the colic and tertians.

Dose—from 10 gr. to a scruple.

153. PIMPINELLA. (Burnet Saxifrage.) *Nat: Order*, umbellatæ.—*ESSENTIAL CHAR: Petals* bent in. *Stigmas* subglobular. *Fruit* ovate, oblong.

P. SAXIFRAGA.—*SPECIFIC CHAR: Leaves* pinnate. *Root-leaflets* roundish, the uppermost linear.

Place.—Fields of Europe.

Quality.—Most acrid, goaty, warm.

Power.—Resolving, diaphoretic, diuretic, emmenagogue.

Use.—The root, in difficulty of breathing, and hysterics.

It may be given in doses of a scruple in substance, and in infusion to 2 dr.

154. PIMPINELLA. ANISUM. (Anise-Pimpernel.)
—*SPECIFIC CHAR: Root-leaves* trifid, gashed.

Place.—Syria, and Egypt.

Quality.—Aromatic, somewhat warm.

Power.—Resolving of blood and milk, carminative.

Use.—The seeds, in tormina of the bowels, cough.

The oil may be taken in the dose of 20 drops; but in flatulencies and colic, the seeds, in substance, are said to be more effectual.

155. *APIUM*. (Parsley.) *Nat: Order*, umbellatæ.
—*ESSENTIAL CHAR: Fruit* ovate, striated.
Involucre one-leaved. *Petals* equal.

A. *PETROSELINUM*. — *SPECIFIC CHAR: Stem-leaflets* linear. *Involucres* minute.

Place.—Sardinia.

Quality.—Aromatic, culinary.

Power.—Resolving, nourishing, diuretic, emmenagogue, driving away milk.

Use.—The root, herb, and seeds, in jaundice, difficulty of passing water, dropsy, lice.

The bruised leaves have been successfully used as a discutient poultice to various kinds of tumours; it should be carefully avoided by those who are subject to epileptic fits. It has been supposed to produce inflammation of the eyes.

156. *APIUM*. *GRAVEOLENS*. (Smallage.) *Nat: Order*, umbellatæ.—*SPECIFIC CHAR: Stem-leaves* wedge-shaped.

Place.—The marshes of Europe.

Quality.—Somewhat nauseous, sweetish, suspicious.

Power.—Carminative, expelling, sudorific, diuretic, emmenagogue, repelling.

Use.—The root, herb, and seeds, in fevers, apoplexy, epilepsy, vertigo, blindness, lice.

Dose—from 1 and a half to 2 oz. of the juice.

Order 3.—TRIGYNIA.

157. *RHUS*. (Sumach.) *Nat: Order*, dumosæ.—*ESSENTIAL CHAR: Calyx* five-parted. *Corolla-petals* five. *Berry* one seeded.

R. CORIARIA.—SPECIFIC CHAR: *Leaves* pinnate. *Leaflets* elliptic, bluntly toothed, villose underneath.

Place.—France, and Italy.

Quality.—Styptic.

Power.—Astringent, cooling.

Use.—The flowers, and seeds, in diarrhœa, dysentery.

158. RHUS VERNIX. (Varnish Sumach.)—SPECIFIC CHAR: *Leaves* pinnate, quite entire, annual, opaque. *Petiole* entire, equal.

Place.—Lapland, the marshes of Virginia.

Quality.—Styptic.

Power.—Astringent.

Use.—The resin as an ointment in bleeding piles.

159. RHUS. COPALLINUM. (Lentiscus-leaved Sumach.)—SPECIFIC CHAR: *Leaves* pinnate, quite entire. *Petioles* membranaceous, jointed.

Place, quality, power, and use, as the former.

160. CASSINE. (Cassine.) *Nat: Order*, dumosæ. — ESSENTIAL CHAR: *Calyx* five-parted. *Petals* five. *Berry* three-seeded.

C. PERAGUA.—SPECIFIC CHAR: *Leaves* petioled, serrate, elliptic, somewhat acute. *Branches* ancipital.

Place.—Carolina, Virginia.

Quality.—Bitter.

Power.—Vomiting, purging, sudorific.

Use.—In diabetes, colic from calculi.

161. SAMBUCUS. (Elder.) *Nat: Order*, dumosæ. — ESSENTIAL CHAR: *Calyx* five-parted. *Corolla* five-cleft. *Berry* three-seeded.

S. EBULUS. (Dwarf Elder.)—SPECIFIC CHAR: *Cymes* three-parted. *Stipules* leafy. *Stem* herbaceous.

Place.—Europe.

Quality.—Bitter, acrid, foetid, nauseous.

Power.—Narcotic, anodyne, expelling, sudorific, diuretic, emetic, drastic.

Use.—The root, inner bark, leaves, flowers, berries, and seeds, in dropsy, whites, scabies.

A decoction of 2 dr. of the root, or a small quantity of its expressed juice, promotes both the alvine and urinary discharges; and if the decoction be prepared from the bark of the fresh root, it commonly proves both an emetic and a cathartic.

162. SAMBUCUS. NIGRA. (Common Elder.)—SPECIFIC CHAR: *Cymes* five-parted. *Leaflets* ovate, serrate. *Stem* arboreous.

Place.—Europe.

Quality.—Acrid, somewhat foetid, nauseous.

Power.—Narcotic, anodyne, aperient, forcing perspiration, urine, the menses, and milk.

Use.—In erysipelas, fevers, rheumatism, gout, and eruptions.

An infusion from the fresh flowers is gently laxative and aperient; and it may be used externally with advantage as a fomentation.

163. TAMARIX. (Tamarisk.) *Nat: Order*, succulentæ.—ESSENTIAL CHAR: *Calyx* five-parted. *Petals* five. *Capsules* one-celled, three-valved. *Seeds* pappous.

T. GALLICA. (French.)—SPECIFIC CHAR: *Flowers* five-stamen'd. *Spikes* lateral. *Leaves* lanceolate, embracing, imbricate.

Place.—France, Spain, Italy.

Quality.—Styptic.

Power.—Astringent.

Use.—The bark, wood, and leaves, in hypochondriasis, stomachic complaints, discharges.

Order 5.—PENTAGYNIA.

164. **STATICE.** (Thrift.) *Nat: Order*, aggregatæ.
—**ESSENTIAL CHAR:** *Calyx* one-petalled, entire, plaited, scariose. *Petals* five. *Seed* one, superior.

S. LIMONIUM.—**SPECIFIC CHAR:** *Scape* panicled, round. *Leaves* oblong, obtuse, smooth, nerveless, with a sharp point under the tip, waved at the edge.

Place.—Arabia.

Quality.—Styptic.

Power.—Astringent.

Use.—The root, in debility, hæmorrhage.

165. **LINUM.** (Flax.) *Nat: Order*, gruinalæ.—
ESSENTIAL CHAR: *Calyx* five-leaved. *Petals* five. *Capsules* ten-valved, ten-celled. *Seeds* solitary.

L. USITATISSIMUM.—**SPECIFIC CHAR:** *Calyx* and *capsules* mucronate. *Petals* crenate. *Leaves* lanceolate. *Stem* generally solitary.

Place.—Spain.

Quality.—Oily.

Power.—Relaxing, blunting, softening.

Use.—The seeds, in arthritis, calculus, colic, spitting of blood from the lungs.

The best method of preparing it is by bruising an oz. of the seeds with half an oz. of sliced liquorice root; to which add 2 pints of boiling water.—Macerate for four hours by the fire, and strain.

166. LINUM. CATHARTICUM. (Purging Flax.)—

SPECIFIC CHAR: *Leaves* ovate-lanceolate.*Stem* dichotomous. *Corolla* acute.*Place*.—The moist meadows of Europe.*Quality*.—Bitter, nauseous.*Power*.—Purging.*Use*.—The herb, in nephritis, calculus, dropsy.

Dose—an infusion in water, or whey, or a handful of the fresh herb, or a dr. of it in substance when dried, is said to purge without inconvenience.

167. DROSERA. (Sun Dew.) *Nat: Order*, gruinales.—ESSENTIAL CHAR: *Calyx* five-cleft. *Petals* five. *Capsules* one-celled, five (or three) valved at the tip. *Seeds* very many.D. ROTUNDIFOLIA.—SPECIFIC CHAR: *Scapes* radical. *Leaves* orbicular.*Place*.—The marshes of Europe.*Quality*.—Subacid, milky.*Power*.—Corroding, suspicious.*Use*.—The juice, in warts, and corns.

CLASS VI.—HEXANDRIA.

Order 1.—MONOGYNIA.

168. **ALIUM.** (Leek.) *Nat: Order, spathaceæ.*—
ESSENTIAL CHAR: *Corolla* six-parted, spreading. *Spathe* many-flowered. *Umbells* heaped. *Capsule*-superior,
A. **PARRUM.**—SPECIFIC CHAR: *Umbells* globose. *Stamens* three-cuspid. *Petals* with a rough keel. *Root* coated.
Place.—France.
Quality.—Acrid, somewhat sweet.
Power.—Heating, emmenagogue, diuretic, diaphoretic.
Use.—The seeds, in calculus.
169. **ALLIUM. VICTORIALIS.** (Long-rooted Garlic.)
—SPECIFIC CHAR: *Umbells* rounded. *Stamens* lanceolate, larger than the *corolla*. *Leaves* elliptic.
Place.—The Alps.
Quality.—Acrid.
Power.—As the last.
Use.—The root is worn as an amulet.
170. **ALLIUM. SATIVUM.** (Common Garlic.)—
SPECIFIC CHAR: *Bulb* compound. *Stamens* three-cuspid.
Place.—Sicily.

Quality.—Acrid, somewhat caustic, productive of milk, diuretic.

Power.—Exciting, expelling, maturating, anthelmintic, diuretic, diaphoretic, alexipharmic.

Use.—The root, in hysterics, colic, dropsy, calculus, coughs, tænia.

171. **ALLIUM. CEPA.** (Common Onion.)—SPECIFIC CHAR: *Scape* swelling out below, and longer than the columnar-leaves.

Place.—Spain.

Quality.—Acrid.

Power.—Maturating, diuretic, diaphoretic, alexipharmic, flatulent, aphrodisiac, anthelmintic.

Use.—The root, in calculus, hæmorrhages; the juice, in bubo, warts at the anus.

172. **LILIUM.** (Lily.) *Nat: Order, coronariæ.*—ESSENTIAL CHAR: *Corolla* six-petalled, bell-shaped; with a longitudinal nectarious line. *Capsules*, the valves connected by cancellated hair.

L. CANDIDUM.—SPECIFIC CHAR: *Leaves* scattered. *Corolla* bell-shaped, smooth within.

Place.—Syria, Palestine.

Quality.—Flowers, fragrant; root, mucilaginous.

Power.—Emollient, maturating, anodyne, anthers, emmenagogue.

Use.—The root, as a cataplasm, in epilepsy, dropsy, and for maturating tumours.

173. **SCILLA.** (Squill.) *Nat: Order, coronariæ.*—ESSENTIAL CHAR: *Corolla* six-petalled, spreading, deciduous. *Film* filiform.

S. MARITIMA.—SPECIFIC CHAR: naked, flowered, with refracted *bractes*.

Place.—Spain, Sicily, the sandy shores of Syria.

Quality.—Acrid, bitter, crude, corrosive.

Power.—Stimulating, expelling, diaphoretic, diuretic, emetic, hydragogue, expectorant.

Use.—The root, in asthma, cough, dropsy, jaundice.

Dose.—1 or 2 gr. three or four times a day, in the form of a pill.

174. ASPHODELUS. ASPHODEL. (King's Spear.)

Nat: Order, coronariæ.—**ESSENTIAL CHAR**:

Corolla six-parted. *Nectary* six-valves, covering the germen.

A. RAMOSUS. — **SPECIFIC CHAR**: *Stem* naked. *Leaves* ensiform, keeled, smooth.

Place.—Spain, Portugal, the Narbonne Hills.

Quality.—Acrid, unpleasant.

Power.—Diuretic, emmenagogue, maturing.

Use.—The root, in promoting the menses, and as a drawing cataplasm.

175. ASPARAGUS. (Asparagus.) *Nat: Order*, sarmentaceæ. — **ESSENTIAL CHAR**: *Corolla* six-parted, erect; the three inner *petals* reflected at the end. *Berry* three-celled, two-seeded.

A. OFFICINALIS.—**SPECIFIC CHAR**: *Stem* herbaceous, round, erect. *Leaves* setaceous. *Stipules* alike.

Place.—South of Europe, in sandy soils.

Quality.—Watery, somewhat sweet, inodorous, renders the urine instantly fœtid.

Power.—Nourishing, cleansing, diuretic, aphrodisiac,

Use.—The root and seeds, in calculus.

176. CONVALLARIA. (Lily of the Valley.) *Nat:* Order, sarmentaceæ. — ESSENTIAL CHAR: *Corolla* six-cleft. *Berry* spotted, three-celled.

C. MAJALIS.—SPECIFIC CHAR: *Flowers* on a scape.

Place.—Europe, especially the hard meadows of Sweden.

Quality.—Fragrant, bitter, acrid, nauseous.

Power.—Narcotic, antispasmodic, an errhine, purging.

Use.—The flowers, as a conserve, in epilepsy, apoplexy, and coryza.

177. CONVALLARIA. POLYGONATUM. (Single-flowered Solomon's Seal.)—SPECIFIC CHAR: *Leaves* alternate, stem-clasping. *Stem* ancipital. *Peduncles* axillary, generally one-flowered.

Place.—The precipices of mountains.

Quality.—Mucilaginous.

Power.—Cosmetic, vulnerary.

Use.—The root, in bruises.

178. ALOE. (Aloe.) *Nat:* Order, coronariæ. — ESSENTIAL CHAR: *Corolla* erect, with an expanded mouth, and a nectarious base. *Filaments* inserted into the receptacle.

A. PERFOLIATA.—SPECIFIC CHAR: *Stem-leaves* toothed, embracing, sheathing. *Flowers* in corymbs, drooping, peduncled, subcylindrical.

Place.—Italy, Sicily, for the hepatic Aloes; Barbadoes, for the succotrine; and Guinea, for the caballine.

Quality.—Most bitter, nauseous.

Power.—Purging, expelling, stomachic, anthelmintic, acts on the lower intestines.

Use.—In obstructions, hypochondriasis, jaundice, worms, and ulcers.

Dose.—in the form of pills, from 2 to 5 gr. of the extract.

179. ACORUS. (Sweet Rush.) *Nat: Order*, piperitæ.—**ESSENTIAL CHAR**: *Spadix* cylindrical, covered with floscules. *Corolla* five-petalled, naked.

C. CALAMUS.—**SPECIFIC CHAR**: the point of the scape very long, and leafy.

Place.—The marshes of Europe, East and West Indies.

Quality.—Aromatic, acrid, somewhat bitter, fragrant.

Power.—Alexipharmic, heating, expelling, diuretic, stomachic.

Use.—The root, in malignant fevers, vertigo.

180. BERBERIS. (Barberry.) *Nat: Order*, vagæ.—**ESSENTIAL CHAR**: *Calyx* six-leaved. *Petals* six, with two glands at the claws. *Style* none. *Berry* two-seeded.

B. VULGARIS.—**SPECIFIC CHAR**: *Peduncles* racemed. *Spines* triple.

Place.—Woods of Europe.

Quality.—Berries, most acrid; bark, yellow, bitter.

Power.—Cooling, attenuating, antiputrid; bark, colouring, purging, tonic.

Use.—The berries, in putrid fevers, cholera; the bark, in jaundice, and leucorrhœa, ophthalmia.

Order 2.—DIGYNIA.

181. ORYZA. (Rice.) *Nat: Order*, graminæ.—
ESSENTIAL CHAR: Calyx glume, two-valved,
 one-flowered. *Corolla* two-valved, almost
 equal, growing to the seed.

O. SATIVA.

Place.—The inundated parts of India.

Quality.—Mealy, sweet.

Power.—Nourishing.

Use.—The seed, as food, in diarrhœa and dysen-
 tery.

Order 3.—TRIGYNIA.

182. RUMEX. (Dock.) *Nat: Order*, holoraceæ.
 —*ESSENTIAL CHAR: Calyx* three-leaved.
Petals three, converging. *Seed* one, three-
 sided.

R. SANGUINEUS. — *SPECIFIC CHAR: Flowers*
 bisexual. *Valves* quite entire, oblong, one
 chiefly graniferous. *Leaves* cordate, lan-
 ceolate.

Place.—Virginia.

Quality.—Austere.

Power.—Astringent, cooling.

Use.—The root and seeds, in dysentery, wounds.

183. RUMEX. AQUATICUS. (Water Dock.)—*SPE-*
CIFIC CHAR: Flowers bisexual. *Valves* ovate,
 entire, naked. *Leaves* cordate, lanceolate,
 acute.

Place.—Marshes of Europe.

Quality.—Bitter, austere, juice yellow.

Power.—Astringent, cooling.

Use.—The herb, in scabies, malignant ulcers, hæmorrhages.

184. RUMEX. SCUTATUS. (French Sorrel.)—SPECIFIC CHAR: *Flowers* bisexual. *Leaves* cordate, hastate. *Stem* round.

Place.—France.

Quality.—Acid.

Power.—Cooling.

Use.—The herb, in scurvy.

185. RUMEX. ALPINUS. (Alpine Dock.)—SPECIFIC CHAR: *Flowers* barren, bisexual, and female. *Valves* quite entire, and naked. *Leaves* cordate, obtuse, wrinkled.

Place.—The moist places of Europe.

Quality.—Bitter, austere, juice yellow.

Power.—Astringent.

Use.—The root, in ulcers.

186. RUMEX. ACETOSA. (Common Sorrel.)—SPECIFIC CHAR: *Flowers* diocious. *Valves* graniferous. *Leaves* oblong, sagitate.

Place.—The meadows of Europe.

Quality.—Acid, bitterish; root red.

Power.—Cooling, tonic.

Use.—The herb, in scurvy, and the exacerbations of fevers; the juice, and as a cataplasm, in scrophula.

187. COLCHICUM. (Meadow Saffron.) *Nat*: Order, spathaceæ.—ESSENTIAL CHAR: *Corolla* six-parted, with a rooted bulb. *Capsules* three, connected, inflated.

C. AUTUMNALE.—SPECIFIC CHAR: *Leaves* flat, lanceolate, erect.

Place.—The moist meadows of the South of Europe.

Quality.—Strong smelling, acrid.

Power.—Narcotic, producing phantasies, diuretic, drastic, expulsive, and destructive of lice.

Use.—The root, in dropsy, gout, piles, and the plague.

Order 4.—TETRAGYNIA.

188. PETIVERIA. (Guinea Hen-weed.) *Nat: Order*, holoraceæ.—ESSENTIAL CHAR: *Calyx* four-leaved. *Corolla* none. *Seed*, one, with reflex awns at top.

P. ALLIACEA.—SPECIFIC CHAR: *Flowers* six-stamen'd.

Place.—Jamaica, South of France.

Quality.—Disposing to venery, increasing the milk, urinary.

Power.—Sudorific, diuretic.

Use.—The herb, in intermittents, during the exacerbation.

CLASS VIII.—OCTANDRIA.

Order 1.—MONOGYNIA.

189. TROPÆOLUM. (Indian Cress.) *Nat: Order, trihilatæ.*—**ESSENTIAL CHAR:** *Calyx* one-leaved, with a spur. *Petals* four, unequal. *Nuts* three, coriaceous.

T. MAJUS,—**SPECIFIC CHAR:** *Leaves* peltate, repend. *Petals* obtuse.

Place.—Peru.

Quality.—Watery, acrid.

Power.—Diuretic.

Use.—The herb, in scurvy.

190. AMYRIS. (Gum Elemi-tree.) *Nat: Order, vagæ.*—**ESSENTIAL CHAR:** *Calyx* four-toothed. *Corolla-petals* four, oblong. *Stigma* four-cornered. *Berry* drupaceous.

A. ELEMIFERA.—**SPECIFIC CHAR:** *Leaves* ternate, and pinnate, with five lobes, downy underneath.

Place.—South America.

Quality.—Pellucid, a yellow green, agreeable in fumes.

Power.—Vulnerary, diuretic

Use.—The resin, in wounds of the head, cuts, pains, tumours.

191. AMYRIS. OPOBALSAMUM. (Balsam of Mecca-tree.) — SPECIFIC CHAR: *Leaves* pinnate. *Leaflets* sessile.

Place.—Arabia the Happy.

Quality.—A tenacious liquid, resinous.

Power.—Detergent, diuretic, balsamic, antiseptic, vulnerary, emmenagogue, cosmetic.

Use.—The resin, in asthma, phthisis, gonorrhœa.

Dose of the balsam 12 drops.

192. LAWSONIA. (Lawsonia.) *Nat: Order*, vagæ. — ESSENTIAL CHAR: *Calyx* four-cleft. *Corolla-petals* four. *Stamens* in four pairs. *Caps* four-celled, many-seeded.

L. INERMIS. — SPECIFIC CHAR: *Branches* unarmed. *Leaves* subsessile, ovate, sharp at both ends.

Place.—India.

Quality.—Red.

Power.—Astringent, dying yellow.

Use.—The root, and leaves, in intermittent fevers.

193. VACCINIUM. (Bilberry.) *Nat: Order*, bicornes. — ESSENTIAL CHAR: *Calyx* superior. *Corolla* one-petalled. *Filaments* inserted into the receptacle. *Berry* four-celled, many-seeded.

V. MYRTILLUS. — SPECIFIC CHAR: *Peduncles* one-flowered. *Leaves* ovate, serrate, deciduous. *Stem* angular.

Place.—Europe, especially the woods of Sweden.

Quality.—Acidulous.

Power.—Somewhat cooling, and astringent.

Use.—The fruit, in diarrhœa.

194. VACCINIUM. VITIS IDÆA. (Red Bilberry.)

—SPECIFIC CHAR: *Racemes* terminating, nodding. *Leaves* abovate, revolute, tooth-letted, dotted beneath.

Place.—Europe, especially the woods in Sweden.

Quality.—Acid.

Power.—Refrigerating, attenuating.

Use.—The fruit, in the thirst of fevers.

195. DAPHNE. (Mezereon.) *Nat: Order*, vepre-

culæ. — ESSENTIAL CHAR: *Calyx* none.

Corolla four-cleft, corollaceous, withering, including the stamens. *Berry* one-seeded.

D. MEZEREUM.—SPECIFIC CHAR: *Flowers* sessile, in threes on the stem. *Leaves* lanceolate, deciduous.

Place.—The shady woods of Europe.

Quality.—Insipid, acrid, septic, against poisons.

Power.—Corroding, rubefacient, excoriating, stimulant, expelling, sickening, drastic, cardialgic, febrifuge.

Use.—The bark, in dropsy, bad ulcers, carcinoma, venereal complaints.

The usual mode of administering it is in decoction.—Dose of the powder from 1 to 10 gr.

196. DAPHNE. LAUREOLA. (Spurge Laurel.)—

SPECIFIC CHAR: *Racemes* axillary, five-flowered. *Leaves* lanceolates, smooth.

Place.—Italy, England, and Germany.

Quality.—Acrid, septic, against poisons.

Power.—Corroding, rubefacient, excoriating, drastic.

Use.—The bark, in dropsy.

Order 3.—TRIGYNIA.

197. POLYGONUM. (Polygonum.) *Nat: Order*, holoraceæ.—**ESSENTIAL CHAR:** *Calyx* none, (or five-parted, coloured.) *Corolla* five-parted, calycine, (or none if this be considered as the calyx.) *Seed* one, angular.

P. BISTORTA. — **SPECIFIC CHAR:** *Stem* quite simple, with a single spike. *Leaves* ovate, waved, decurrent.

Place.—The moist meadows of Germany.

Quality.—Styptic.

Power.—Astringent.

Use.—The root, in dysentery, leucorrhœa, weakness of the stomach.

The dose of the root, in substance, is from a scruple to a dr. but it has been given to the extent of 3 dr. a day.

198. POLYGONUM. HYDROPIPER. (Water or Biting Persicaria.)—**SPECIFIC CHAR:** *Flowers* hexandrous, semidigynous. *Leaves* lanceolate, waved, unspotted. *Spikes* filiform, nodding. *Stem* erect.

Place.—The moist meadows of Europe.

Quality.—Acrid, burning.

Power.—Corroding, rubefacient, stimulant, diuretic.

Use.—The herb, in calculus, tooth-ache, excoriations of the mouth.

199. POLYGONUM. AVICULARE. (Common Knot-grass.) *Flowers* axillary. *Leaves* elliptic, lanceolate, rugged at the edge; nerves of the *stipules* remote. *Stem* procumbent, herbaceous.

Place.—Europe.

Quality.—Insipid, inodorous.

Power.—Subastringent, vulnerary.

Use.—The herb, in prolapsus ani.

200. **POLYGONUM. FAGOPYRUM.** (Buck-Wheat.)

Leaves cordate, sagittate. *Stem* almost upright, unarmed; angles of the *seeds* equal.

Place.—Asia.

Quality.—Farinaceous.

Power.—Refrigerant, obstipating, nourishing.

Use.—The seeds, for food.

201. **SAPINDUS.** (Common Soap-berry-Tree.)

Nat: Order, trihilatæ.—**ESSENTIAL CHAR:**
Calyx four-leaved. *Petals* four. *Capsules* fleshy, connate, ventricose.

S. SAPONARIA. — **SPECIFIC CHAR:** unarmed.
Leaves pinnate. *Leaflets* lanceolate. *Rachis* winged.

Place.—Brazil, Jamaica.

Quality.—Foamy.

Power.—Soapy.

Use.—The nut, in chlorosis, leucorrhœa.

CLASS IX.—ENNEANDRIA.

Order 1.—MONOGYNIA.

202. LAURUS. (Cinnamon Tree.) *Nat: Order, holoraceæ.*—**ESSENTIAL CHAR:** *Calyx* none. *Corolla* calycine, six-parted. *Nectary* of three two bristled glands, surrounding the germ. *Filaments* inner glanduliferous. *Drupe* one-seeded.

L. CINNAMOMUM. — **SPECIFIC CHAR:** *Leaves* three-nerved, ovate, oblong; nerves disappearing towards the end.

Place.—Ceylon, Martinique.

Quality.—Mild, acrid, aromatic, most agreeable, fragrant.

Power.—Cordial, analeptic, corroborant, warming, perspirant, febrifuge, carminative, stomachic.

Use.—The bark, in debility, vomiting, tympany, leucorrhœa, menorrhagy.

An essential oil is obtained from the spice, a drop or two of which is diluted by means of sugar, mucilages, &c. It is one of the most immediate cordials and restoratives.

203. LAURUS. CASSIA. (Cassia, or Wild Cinnamon.) — **SPECIFIC CHAR:** *Leaves* triple-nerved, lanceolate.

Place.—Malabar, Java, Sumatra.

Quality.—Weaker than cinnamon.

Power.—More astringent than the former.

Use.—The bark, in diarrhœa.

Use—as a substitute for the other.

204. LAURUS. CAMPHORA. (Camphor Tree.)
—SPECIFIC CHAR: *Leaves* triple-nerved,
lanceolate, ovate.

Place.—Japan.

Quality.—Aromatic, acrid, most fragrant, anti-septic, antispasmodic.

Power.—Resolvent, nervous, expelling, sudorific, cooling, anthelminthic.

Use.—The gum-resin, in keeping off contagion, fevers, madness, epilepsy, hysterics, tooth-ache, ophthalmia, and rheumatism.

Dose—from 5 gr. to half a scruple.

205. LAURUS. NOBILIS. (Common Sweet-bay.)
—SPECIFIC CHAR: *Leaves* ovate, lanceolate,
perennial, veined, shining; axils of the veins
glandular underneath. *Flowers* in very short
racemes.

Place.—Greece, Italy.

Quality.—Warm, somewhat acrid, aromatic.

Power.—Heating, resolving, expelling, carminative.

Use.—The berry, in the colic from the lochia.

An infusion of the leaves is sometimes drunk as tea; and the essential oil may be given from 1 to 5 or 6 drops on sugar.

206. LAURUS. SASSAFRAS. (Sassafras Tree.)—
SPECIFIC CHAR: *Leaves* entire, and three-
lobed.

Place.—Pensylvania, Virginia, Florida.

Quality.—Somewhat sweet, and acrid, aromatic, fragrant.

Power.—Diaphoretic, sudorific, expelling, corroborant, purifying.

Use.—The bark and wood, in syphilis, wastings, dropsy, scabies, flatulency, catarrh, rheumatism, gout.

An essential oil is prepared from it, which may be given in the dose of from 2 drops to 10. The infusion is commonly drunk as tea.

207. LAURUS. PECURIM. (Paraguay Laurel.)—
SPECIFIC CHAR: *Leaves* triple-nerved, opposite.

Place.—Paraguay.

Quality.—Aromatic, somewhat styptic.

Power.—Somewhat astringent, stomachic.

Use.—The herb, for debility of the stomach, and diarrhœa.

Order 3.—TRIGYNIA.

208. RHEUM. (Rhubarb.) *Nat: Order*, holoraceæ.
—ESSENTIAL CHAR: *Calyx* none. *Corolla* six-cleft, permanent. *Seed* one, three-sided.

R. RHAPONTICUM. — SPECIFIC CHAR: *Leaves* blunt, smooth. *Veins* somewhat hairy underneath. The *sinus*, at the base dilated. *Petioles* grooved above, and rounded at the edge.

Place.—Thrace, Scythia.

Quality.—Styptic, bitter, nauseous.

Power.—Purging, astringent, stomachic.

Use.—The root, in diarrhœa, leucorrhœa, debility of the stomach, and vermifuge.

Dose—of the extract, from 6 gr. to half a dr.—of the infusion, from half an oz. to 2 oz.—of the tincture, as a purgative, from 6 dr. to 2 oz.—as a stomachic, from 1 dr. to 3 dr.

209. RHEUM. PALMATUM. (Officinal Rhubarb.)

—SPECIFIC CHAR: *Leaves* palmate, acuminate, somewhat rugged. The *sinus*, at the base dilated. *Petioles* obscurely grooved above, rounded at the edge.

Place.—Mongal, on the borders of China.

Quality.—As the last.

Power.—As the last.

Use.—The root, in hypochondriasis, and worms.

Dose—take of the root, in powder, from a scruple to a dr.: of the tincture, half an oz.: of the extract, 6 gr. to 10. Rhubarb is also chewed before dinner, as a stomachic. It is a warm, drastic purge, excellent for cold constitutions, and is usually mixed with salts, or senna, or both, and made less nauseous by syrup of ginger. When given to children, in the dose of 3 or 4 gr., much sugar must be added to it.

CLASS X.—DECANDRIA.

Order 1.—MONOGYNIA.

210. SOPHORA. (Sophora.) *Nat: Order*, leguminosæ. — *ESSENTIAL CHAR: Calyx* five-toothed, gibbous above. *Corolla* papilionaceous, with the wings of the same length with the standard *legume*.

S. HEPTAPHYLLA. — *SPECIFIC CHAR: Leaves* pinnate. *Leaflets* seven, smooth.

Place.—The East Indies.

Quality.—Most bitter.

Power.—Astringent.

Use.—The root, in cholera morbus.

211. HYMENÆA. (Locust Tree.) *Nat: Order*, lomentaceæ — *ESSENTIAL CHAR: Calyx* five-parted. *Petals* five, almost equal. *Style* twisted inwards. *Legume* filled with farinaceous pulp.

H. COURBARIL.—The resin is called *anime*.

Place.—Italy, and Spain.

Quality.—Nauseous, foetid, bitter.

Power.—Purgine, expelling, repellant.

Use.—The resin, in contractions, paralysis.

212. CASSIA. (Cassia.) *Nat: Order*, lomentaceæ. — *ESSENTIAL CHAR: Calyx* pentaphyllous. *Petals* five; the three superior *anthers* sterile, the three inferior beaked.

C. SENNA.—SPECIFIC CHAR: *Leaflets* from four to six pairs, subovate. *Petioles* without glands.

Place.—Italy, and Alexandria.

Quality.—Bitter, somewhat nauseous.

Power.—Purging, drastic.

Use.—The leaves, in obstipations, and herpes.

Dose—of the leaves infused a dr.; of the extract a scruple and a half.

213. CASSIA. FISTULA. (Alexandria Purging Cassia.)—SPECIFIC CHAR: *Leaflets* five pairs, ovate, acuminate, smooth. *Petioles* without glands.

Place.—East Indies, Egypt, Arabia, Mexico.

Quality.—Sweet, somewhat nauseous.

Power.—Demulcent.

Use.—The pulp, in obstipations of the bowels, nephritic calculi.

Dose—in substance, from a scruple to a dr. and a half;—of the confection of senna, from 1 to 4 dr.

214. CÆSALPINA. (Brasiletto.) *Nat: Order*, lomentaceæ.—ESSENTIAL CHAR: *Calyx* five-parted; the lowest *segment* longer, and slightly arched. *Stamina* woolly at the base. *Petals* five. *Legumen* compressed.

C. VESICARIA.—SPECIFIC CHAR: *Leaves* obcordate.

Place.—Jamaica, Hills of Carolina.

Quality.—Dying yellow.

Power.—Used as a dye.

Use.—Æconomic.

215. GUILANDINA. (Bonduc.) *Nat: Order*, lomentaceæ.—ESSENTIAL CHAR: *Calyx* one-leafed, salver-shaped. *Petals* inserted into the neck of the *calyx*, nearly equal. *Seed-vessel* a legumen.

G. MORINGA.—SPECIFIC CHAR: *Unarmed-leaves* subpinnate, lower-leaflets ternate.

Place.—Ceylon, Malabar.

Quality.—Subacid.

Power.—Diuretic, blunting.

Use.—The wood, in scabies, eruptive fevers.

216. GUAIAACUM. (Lignum Vitæ.) *Nat: Order*, gruinales.—ESSENTIAL CHAR: *Calyx* five-cleft, unequal. *Petals* five, inserted into the receptacle. *Capsules* angular, five-celled.

G. OFFICINALE.—*Leaflets* two-pairs, obtuse.

Place.—Jamaica, Hispaniola.

Quality.—Drying, somewhat acrid.

Power.—Aperient, purifying, expelling, visceral, sternutatory.

Use.—The bark and resin, in syphilis, leucorrhœa, gout, scabies.

Dose—of the resin, from 10 gr. to 2 scruples ;—of the tincture, from 1 dr. to 3 dr.

217. ANACARDIUM. (Cashew Nut.) *Nat: Order*, holoraceæ.—ESSENTIAL CHAR: *Calyx* five-leaved. *Petals* five, reflex. *Anthems* ten, one only fertile. *Nut* kidney-shaped, on the top of a fleshy receptacle.

A. OCCIDENTALE.

Place.—The Brazils.

The oil of the nut is used to take away freckles.

218. DICTAMNUS. (Fraxinella.) *Nat: Order*, multisiliquæ. — ESSENTIAL CHAR: *Calyx* five-leaved. *Petals* five, patulous. *Filaments* having glandulous dots scattered over them. *Capsules* five, conjoined.

D. ALBUS. — SPECIFIC CHAR: *Leaves* pinnate.
Stem simple.

Place.—Narbonne, and the hills of Germany.

Quality.—Bitter.

Power.—Balsamic, expelling, vermifuge, emmenagogue.

Use.—The root, in epilepsy, worms.

Dose—the powdered root has been employed to the extent of a scruple twice a day, in worms; and a tincture, prepared of 2 oz. of the fresh root, digested in 14 oz. of the spirits of wine;—of this from 20 to 50 drops, two or three times a day, have been successfully prescribed in epilepsies.

219. RUTA. (Common Rue.) *Nat: Order*, multi-siliquæ. — ESSENTIAL CHAR: *Calyx* five-parted. *Petals* concave. *Receptacle* surrounded by ten honey dots. *Capsules* lobed.

R. GRAVEOLENS.—SPECIFIC CHAR: *Leaves* super-decompound. *Leaflets* oblong, the end one obovate. *Petals* quite entire.

Place.—Africa, Greece, South of France.

Quality.—Biting, very bitter.

Power.—Resolvent, antivenerial, expelling, carminative, emmenagogue, sudorific, vermifuge, rubefacient.

Use.—The herb, against the plague, epilepsy, hysteria, hiccup, bad eyes.

Dose—from 10 gr. to half a dr.

220. TOLUIFERA. (Balsam of Tolu Tree.) — ESSENTIAL CHAR: *Calyx* five-toothed, bell-shaped. *Petals* five, the lowest twice as big, obcordate. *Style* none.

T. BALSAMUM.

Place.—The Province of Tolu near Carthagena, in America.

Quality.—Mild, fragrant.

Power.—Diuretic, vulnerary.

Use.—The balsam, in phthisis, gonorrhœa, ulcers, wounds.

Dose.—from 5 gr. to half a dr.

221. HÆMATOXYLON. (Logwood Tree.) *Nat*: Order, Iomentaceæ. — ESSENTIAL CHAR: *Calyx* five-parted. *Petals* five. *Legume* lanceolate. *Valves* boat-shaped.

H. CAMPECHIANUM.

Place.—Campechia, in America.

Quality.—Styptic.

Power.—Astringent, dyes a mahogany colour.

Use.—The bark, in dysentery.

Dose.—of the extract, prepared from the wood, 1 or 2 scruples, repeated according to the urgency of the symptoms.

222. QUASSIA. (Bitter Quassia.) *Nat*: Order, gruinalis.—ESSENTIAL CHAR: *Calyx* five-leaved. *Petals* five. *Nectary* five-leaved. *Pericarp*: five, distant, each having one seed.

Q. AMARA.—SPECIFIC CHAR: *Flowers* bisexual. *Leaves* unequally pinnate. *Leaflets* opposite, sessile. *Petiole* jointed, winged. *Flowers* in racemes.

Place.—Surinam.

Quality.—Most bitter, inodorous.

Power.—Balsamic, antacid, antiputrescent, tonic, stomachic.

Use.—The wood, in intermittent fevers, hypochondriasis, arthritis, leucorrhœa, sphacelus.

It may be given in infusion or in pills made from the watery extract; the former is generally preferred in the proportion of 3 or 4 dr. of the wood to 12 oz. of water.

223. COPAIFERA. (Balsam of Copaiva Tree.)
Nat: Order, dumosæ.—**ESSENTIAL CHAR:**
Calyx none. *Petals* four. *Legume* ovate.
Seed one, with a berried arile.

C. OFFICINALIS.

Place.—Brazil.

Quality.—Acrid, bitter, aromatic, fragrant, urinary.

Power.—Vulnerary, diuretic, purifying.

Use.—The balsam, in synocha, phthisis, hectic fever, cough, gonorrhœa, leucorrhœa, diarrhœa, scurvy.

Dose—from 20 to 30 drops twice a day, brought into the form of an emulsion by triturating it with a little sugar and thick mucilage of gum arabic.

224. LEDUM. (Ledum.) *Nat: Order*, bicornes.—
ESSENTIAL CHAR: *Calyx* five-cleft. *Corolla*
 flat, five-parted. *Capsules* five-celled, gaping
 at the base.

L. PALUSTRE.—**SPECIFIC CHAR:** *Leaves* linear,
 rolled back at the edge, tomentose under-
 neath.

Place.—The marshes of Sweden.

Quality.—Bitterish, stinking.

Power.—Narcotic, producing imaginary appear-
 ances, head-aches, eruptions.

Use.—The herb, in serous coughs, eruptive fevers,
 scabies.

225. ARBUTUS. (Bearberry.) *Nat: Order*, bi-
 cornes.—**ESSENTIAL CHAR:** *Calyx* five-
 parted. *Corolla* ovate, diaphanous at the
 base. *Capsules* five-celled.

A. UVA URSI.—**SPECIFIC CHAR:** *Stem* procum-
 bent. *Leaves* quite entire.

Place.—The sandy hills of Sweden.

Quality.—Styptic, inodorous.

Power.—Astringent, diuretic, capable of tanning leather.

Use.—The leaves, in calculus.

Dose—of the powdered leaves from a scruple to a dr. two or three times a day.

226. PYROLA. (Winter Green.) *Nat: Order*, bicornes.—*ESSENTIAL CHAR: Calyx* five-parted. *Petals* five. *Capsules* superior, five-celled, opening at the corners, many-seeded. *Anthers* with two pores.

P. ROTUNDIFOLIA. *Stamens* ascending. *Pistil* declined.

Place.—The woods of Europe.

Quality.—Somewhat styptic, inodorous.

Power.—Corroborating, astringent.

Use.—The herb, in wounds.

227. STYRAX. (Storax.) *Nat: Order*, bicornes.—*ESSENTIAL CHAR: Calyx* inferior. *Corolla* funnel-form. *Drupe* two-seeded.

S. OFFICINALE.—*SPECIFIC CHAR: Leaves* ovate, villose beneath. *Racemes* simple, shorter than the leaf.

Place.—Italy, Crete, Syria, Palestine.

Quality.—Resinous, subacrid, fragrant.

Power.—Nervous, somewhat anodyne.

Use.—The resin, in internal ulcers, catarrh, cough.

Dose—from 10 gr. to half a scruple.

Order 2.—DIGYNIA.

228. SAXIFRAGA. (Saxifrage.) *Nat: Order*, succulentæ.—*ESSENTIAL CHAR: Calyx* five-parted. *Corolla* five-petalled. *Capsules* two-beaked, one-celled, many-seeded.

S. GRANULATA.—SPECIFIC CHAR: *Leaves* kidney-shaped, lobed. *Stem* ramous. *Root* granulated.

Place.—The hills and meadows of Europe.

Quality.—Acrid, pungent.

Power.—Diuretic.

Use.—The root, herb, flowers, and seeds, in calculus.

129. SAPONARIA. (Soap Wort.) *Nat: Order*, caryophyllæi.—ESSENTIAL CHAR: *Calyx* one-leaved, naked. *Petals* five. *Capsules* oblong, one-celled.

S. OFFICINALIS.—SPECIFIC CHAR: *Calyx* cylindrical. *Leaves* elliptic-lanceolate.

Place.—Germany, England, France, Holland.

Quality.—Bitter, frothing when rubbed.

Power.—Expelling, sudorific, diuretic, emmenagogue, anthelminthic.

Use.—The root, herb and seeds, in decays, leucorrhœa, jaundice, ascarides.

230. DIANTHUS. (Pink.) *Nat: Order*, caryophyllæi.—ESSENTIAL CHAR: *Calyx* cylindric, one-leaved, with four scales at the base. *Petals* five, with claws. *Capsules* cylindric, one-celled.

D. CARYOPHYLLUS. (Clove.)—SPECIFIC CHAR: *Calycine-scales* cylindric, very short. *Petals* crenate.

Place.—The Alps of Southern Europe.

Quality.—Fragrant.

Power.—Cordial, sudorific, against infection.

Use.—The flowers, in contagious and eruptive fevers.

Order 5.—PENTAGYNIA.

231. SEDUM. (Stone-crop.) *Nat: Order*, succulentæ.—*ESSENTIAL CHAR: Calyx* five-cleft. *Corolla* five-petalled. *Scales* nectariferous, five at the base of the germ. *Capsules* five.

S. ACRE.—*SPECIFIC CHAR: Leaves* alternate, subovate, fleshy, gibbous, adnate-sessile. *Cyme* trifid, leafy.

Place.—The rocky hills of Europe.

Quality.—Glutinous, subacid, mild.

Power.—Cooling.

Use.—The herb, in quartans, scurvy, dropsy.

This plant is considered of great efficacy in scorbutic complaints, for which purpose a handful of the herb is directed to be boiled in eight pints of milk for about an hour, of which three or four ounces are to be taken every, or every other, morning.

232. OXALIS. (Wood-sorrel.) *Nat: Order*, grinales.—*ESSENTIAL CHAR: Calyx* five-parted. *Petals* five, often connected at the base. *Capsules* five-celled, five-cornered, opening at the corners. *Seeds* arilled.

O. ACETOSELLA.—*SPECIFIC CHAR: Styles* equal. *Leaflets* in threes, obcordate, hirsute. *Root* toothed.

Place.—The woods of Europe.

Quality.—Acid.

Power.—Cooling.

Use.—The herb, in putrid fevers and scrophulous sores.

The principal use of this plant is to allay inordinate heat, and to quench thirst. For this purpose a pleasant whey may be formed by boiling it in milk. The essential salt of lemons used for taking ink stains out of linen is prepared from this plant.

Order 6.—DECAGYNIA.

233. PHYTOLACCA. (Phytolacca.) *Nat: Order*,
miscellanææ. — **ESSENTIAL CHAR:** *Calyx*
none. *Petals* five. *Berry* superior, ten-
celled, ten-seeded.

P. DECANDRA.—**SPECIFIC CHAR:** *Flowers* ten-
stamened, ten-styled.

Place.—Virginia.

Quality.—Aqueous.

Power.—Corroding.

Use.—The recent herb, in carcinoma.

The juice, when the plant become adult, is then acrid, and possesses its highest degree of virtue, and is taken inwardly in the dose of a dr. in some water.

CLASS XI.—DODECANDRIA.

Order 1.—MONOGYNIA.

234. ASARUM. (Asarabacca.) *Nat: Order, sarmentaceæ.*—**ESSENTIAL CHAR:** *Calyx* three or four-cleft, placed on the germen. *Corolla* none. *Capsules* coriaceous, crowned.

A. EUROPÆUM.—**SPECIFIC CHAR:** *Leaves* kidney-shaped, blunt, in pairs.

Place.—South of Europe.

Quality.—Bitter, acrid, nauseous.

Power.—Vomiting, purging, diuretic, diaphoretic, emmenagogue, errhine.

Use.—The root and leaves, in melancholy.

A scruple of the powder proves a gentle emetic, and half a dr. or a dr. evacuates powerfully, both upwards and downwards; a gr. or 2 snuffed up the nose, proves a powerful sternutatory.

235. WINTERANIA. (Winterania.) *Nat: Order, miscellanææ.* — **ESSENTIAL CHAR:** *Calyx* three-lobed. *Petals* six or twelve. *Germens* club-shaped. *Style* none. *Berries* four or eight, obovate.

W. CANELLA.—**SPECIFIC CHAR:** *Leaves* oblong, obtuse, shining. *Racemes* terminal.

Place.—Jamaica, Carolina.

Quality.—Acrid, pungent, somewhat bitter, aromatic, fragrant.

Power.—Heating, expelling, carminative.

Use.—Winter's bark, in catarrhs, hæmorrhagies, paralysis of the tongue.

236. **PORTULACA.** (Purslane.) *Nat: Order*, succulentæ.—**ESSENTIAL CHAR:** *Calyx* bifid. *Corolla* five-petalled. *Capsules* one-celled, cut round, or three-valved.

P. OLERACEA.—**SPECIFIC CHAR:** *Leaves* wedge-shaped. *Flowers* sessile.

Place.—Germany, Malabar, Jamaica.

Quality.—Aqueous.

Power.—Diluting, softening, cooling, corroborant, coagulating milk.

Use.—The herb, in nausea, scurvy, strangury, calculus.

The green leaves and young stalks may be used as a sallad.

Order 2.—DIGYNIA.

237. **AGRIMONIA.** (Agrimony.) *Nat: Order*, senticosæ. — **ESSENTIAL CHAR:** *Calyx* five-cleft, fenced with another. *Petals* five. *Seeds* two, at the bottom of the calyx.

A. EUPATORIA — **SPECIFIC CHAR:** *Stem-leaves* pinnate, the end-lobe petioled. *Fruit* hispid.

Place.—The fields of Europe.

Quality.—Styptic.

Power.—Astringent, corroborating, expelling, diuretic, vulnerary.

Use.—The herb, in inward ulcers, and dropsy.

It may be given, infused with liquorice, in the form of tea.

Order 3.—TRIGYNIA.

238. EUPHORBIA. (Spurge.) *Nat: Order*, tricoccæ.—**ESSENTIAL CHAR:** four or five-petalled, placed on the calyx. *Calyx* one-leaved, bellying. *Capsules* tricoccus.

E. OFFICINARUM.—**SPECIFIC CHAR:** *Stem* many-angled. *Prickles* twin.

Place.—Africa.

Quality.—Milky, acrid, septic.

Power.—Corroding, rubefacient, blistering, ulcerating, stimulant, expelling, drastic, sternutatory.

Use.—The gum, in dropsy, caries, spots on the skin.

Euphorbium assists to form a valuable irritating plaster for affections of the chest,—about a dr. of the powder to 4 oz. of Burgundy pitch.

239. EUPHORBIA. LATHYRIS. (Caper Spurge.)
—**SPECIFIC CHAR:** *Umbells* dichotomous.
Leaves opposite, quite entire.

Place —France.

Quality.—Milky, acrid.

Power.—Corroding, drastic.

Use.—The seeds, in warts.

240. EUPHORBIA. PALUSTRIS. (Marsh Spurge.)
—**SPECIFIC CHAR:** *Umbells* multifid, subtrifid, or bifid. *Involucres* ovate. *Leaves* lanceolate. *Branches* barren.

Place.—Europe, especially Gothland.

Quality.—Milky, acrid.

Power.—Corroding, blistering.

Use.—The herb and root, in dropsy, tooth-ache, ring-worm, warts, and corns

Order 4.—DODECAGYNIA.

241. **SEMPERVIVUM.** (House-leek.) *Nat: Order,* succulentæ. — **ESSENTIAL CHAR:** *Calyx* twelve - parted. *Petals* twelve. *Capsules* twelve, many-seeded.

S. TECTORUM.—**SPECIFIC CHAR:** *Leaves* ciliate. *Offsets* spreading.

Place.—The roofs of houses in Europe.

Quality. - Acid, austere, aqueous, somewhat acrid.

Power.—Refrigerating, astringent.

Use.—The herb, in fevers, dysentery, ophthalmia, burns, corns.

The juice is often mixed with cream for an outward application.

CLASS XII.—ICOSANDRIA.

Order 1.—MONOGYNIA.

242. MYRTUS. (Myrtle.) *Nat : Order*, hesperideæ.
—*ESSENTIAL CHAR* : *Calyx* five-cleft, superior. *Petals* five. *Berry* two or three-celled. *Seeds* several, gibbous.

M. COMMUNIS.—*SPECIFIC CHAR* : *Flowers* solitary. *Involucre* two-valved.

Place.—The temperate regions of the Earth.

Quality.—Somewhat styptic, aromatic, fragrant.

Power.—Heating, corroborant, astringent.

Use.—The leaves and berries, in discharges.

243. MYRTUS. (Caryophyllata.) — *SPECIFIC CHAR* : *Peduncles* trichotomous, terminating. *Calyx* undivided. *Leaves* ovate, lanceolate.

Place.—Cuba.

Quality.—Aromatic, fragrant, pungent.

Power.—Cephalic, stomachic, tonic.

Use.—The bark, in declines.

244. MYRTUS. PIMENTA. (All-Spice.)—*SPECIFIC CHAR* : *Leaves* trichotomous, panicled, oblong, lanceolate.

Place.—Jamaica.

Quality.—Aromatic, fragrant.

Power.—Heating, stomachic.

Use.—The fruit, as a spice, in general.

Use—as a condiment in dressing food.

245. PUNICA. (Pomegranate Tree.) *Nat: Order,* pomaceæ.—*ESSENTIAL CHAR: Calyx* five-cleft, superior. *Petals* five. *Pome* many-celled, many-seeded.

P. GRANATUM.—*SPECIFIC CHAR: Leaves* lanceolate. *Stem* arboreous.

Place.—Africa, Spain, and Italy.

Quality.—Styptic.

Power.—Astringent, relaxing, anodyne; flowers, diuretic, anthelminthic.

Use.—The bark and seeds, in head-ache, pro-lapsus.

Dose—in substance, is from half a dr. to a dr.; in infusion, or decoction, half an oz.

246. AMYGDALUS. (Common Peach-tree.) *Nat: Order,* pomaceæ.—*ESSENTIAL CHAR: Calyx* quinquefid, inferior. *Petals* five. *Drupe* having a shell perforated with pores. *Skin* pubescent.

A. PERSICA.—*SPECIFIC CHAR: all the serratures* of the *leaves* acute. *Flowers* sessile, and solitary.

Place.—Persia.

Quality.—Bitter.

Power.—Poisonous.

Use.—The flowers, form a syrup; the nut, against worms.

An infusion of a dr. of the flowers, dried, or half an oz. in their recent state, has been successfully given in the character of a vermifuge, especially to children. The leaves also possess the same power, and have been given, with invariable success, both to children and adults.

247. *AMYGDALUS. COMMUNIS.* (Common Almond.)—SPECIFIC CHAR: the lower serratures of the *leaves* glandulous. The *flowers* sessile, twin.

Place.—The hedges of Tripoli, in Africa.

Quality.—Somewhat fatty, sweet, sapid.

Power.—Nourishing, obtunding, emollient, relaxing.

Use.—The nuts, in pains, inflammations, fevers, coughs, and colic.

248. *PRUNUS.* (Common Laurel.) *Nat: Order,* pomaceæ.—ESSENTIAL CHAR: *Calyx* five-cleft, inferior. *Petals* five. *Drupe* with a nut, having the sutures prominent.

P. LAUROCERASUS.—SPECIFIC CHAR: *Flowers* in racemes. *Leaves* ever-green, biglandular at the back.

Place.—Italy.

Quality.—Bitter, poisonous.

Power.—Narcotic, like bitter almonds, antispasmodic.

Use.—The leaves, in phthisis, syphilis.

A pound of the leaves is directed to be macerated in a pint of water, of which from 20 to 40 drops may be given three or four times a day.

249. *PRUNUS. CERASUS.* (Common Cherry-tree.)—SPECIFIC CHAR: *Umbells* subpeduncled. *Leaves* ovate, lanceolate, smooth, folded together.

Place.—The orchards and gardens of Europe.

Quality.—A watery acid.

Power.—Cooling.

Use.—The fruit, in fevers.

250. PRUNUS. AVIUM. (Small-fruited Cherry-tree.)—SPECIFIC CHAR: *Umbells* sessile. *Leaves* ovate, lanceolate, pubescent underneath, folded together.

Place.—Orchards of Europe.

Quality.—Acid, sapid.

Power.—Nervous, antispasmodic, anodyne.

Use.—The fruit, in paralysis, and convulsions.

251. PRUNUS. DOMESTICA. (Common Plum-tree.)—SPECIFIC CHAR: *Peduncles* subsolitary. *Leaves* lanceolate, ovate, convoluted. *Branches* without thorns.

Place.—South of Europe.

Use.—The fruit, as an aperient; to which may be added some carminative ingredient, to prevent their occasioning flatulency.

252. PRUNUS. SPINOSA. (Sloe Tree.)—SPECIFIC CHAR: *Peduncles* solitary. *Leaves* lanceolate, smooth. *Branches* thorny.

Place.—Hills of Europe.

Quality.—Root and bark, styptic; fruit, astringent.

Use.—The bark, flowers, and fruit, in diarrhœa, discharges, calculus.

The flowers, with their calyx—an oz. of which infused in a sufficient quantity of water, or rather whey, is an useful laxative. The powdered bark, in doses of a dr., is said to cure agues.

Order 2.—DIGYNIA.

253. CRATÆGUS. (White-beam Tree.) *Nat*: Order, pomaceæ.—ESSENTIAL CHAR: *Calyx* five-cleft. *Petals* five. *Berry* inferior, two-seeded.

C. ARIA.—SPECIFIC CHAR: unarmed. *Leaves* ovate, gashed, serrate, tomentose underneath.

Place.—The mountains of Germany.

Quality.—Farinaceous.

Power.—Flatulent.

Use.—The berry, sometimes as food.

Order 3.—TRIGYNIA.

254. SORBUS. (Mountain Ash.) *Nat: Order*, pomaceæ.—ESSENTIAL CHAR: *Calyx* five-cleft. *Petals* five. *Berry* inferior, three-seeded.

S. AUCUPARIA.—SPECIFIC CHAR: *Leaves* pinnate, smooth on both sides.

Place.—Woods of Europe.

Quality.—Acid, farinaceous.

Power.—Astringent.

Use.—The berry, in hæmorrhoids.

Order 5.—PENTAGYNIA.

255. MESPILUS. (Mespilus.) *Nat: Order*, pomaceæ.—ESSENTIAL CHAR: *Calyx* five-cleft. *Petals* five. *Berry* inferior, five-seeded.

M. GERMANICA. — SPECIFIC CHAR: unarmed. *Leaves* lanceolate, tomentose underneath. *Flowers* sessile, solitary.

Place.—South of Germany and Europe.

Quality.—Styptic, farinaceous, esculent.

Power.—Astringent, cooling.

Use.—The fruit in diarrhœa.

256. PYRUS. (Apple Tree.) *Nat: Order*, pomaceæ. — *ESSENTIAL CHAR: Calyx* five-cleft. *Petals* five. *Pome* inferior, five-celled, many-seeded.

P. MALUS.—*SPECIFIC CHAR: Leaves* ovate, oblong, acuminate, serrate, smooth. *Umbells* simple, sessile. *Claws* of the *corolla* shorter than the calyx. *Styles* smooth.

Place.—Germany.

Quality.—Somewhat acid, esculent, sapid.

Power.—Cooling, tonic.

Use.—The fruit, in fevers.

257. PYRUS. CYDONIA. (Quince Tree.) — *SPECIFIC CHAR: Leaves* quite entire. *Flowers* solitary.

Place.—The Danube.

Quality.—Acid, styptic; seeds mucilaginous.

Power.—Astringent, cooling; seeds blunting.

Use.—The fruit and seeds, in nausea, vomiting, colic, cholera morbus, diarrhœa, abortion.

258. SPIRÆA. (Spiræa.) *Nat: Order*, pomaceæ. — *ESSENTIAL CHAR: Calyx* five-cleft. *Petals* five. *Capsules* many-seeded.

S. FILIPENDULA.—*SPECIFIC CHAR: Leaves* interruptedly pinnate. *Leaflets* uniform, serrate, smooth. *Stem* herbaceous. *Flowers* cymed.

Place.—Meadows of Europe.

Quality.—Styptic.

Power.—Astringent, vulnerary, good in the stone.

Use.—The root and herb, in leucorrhœa, dysentery, hernia.

259. SPIRŒA. ULMARIA. (Meadow Sweet.)—

SPECIFIC CHAR: *Leaves* interruptedly pinnate, tomentose beneath; the end *leaflets* larger, lobed. *Flowers* cymed, many-styled.

Place.—The humid pastures of Europe.

Quality.—Styptic, fragrant.

Power.—Astringent, sudorific.

Use.—The root, and herb, in eruptions, dysentery, hernia.

The flowers strewed on the floor diffuse an agreeable perfume, and the leaves give a pleasant odour to wine and other liquors.

Order 5.—POLYGYNIA.

260. ROSA. (Hundred-leaved Rose.) *Nat: Order*, senticosæ.—ESSENTIAL CHAR: *Calyx* pitcher-shaped, five-cleft, fleshy, contracted at the neck. *Petals* five. *Seeds* very many, hispid, fastened to the inner side of the calyx.

R. CENTIFOLIA.—SPECIFIC CHAR: *Fruit* ovate, with *peduncles* hispid. *Stem* hispid, prickly. *Petioles* unarmed.

Place.—Europe.

Quality.—Fragrant, producing a red colour with vitriolic acid.

Power.—Strengthening, astringent.

Use.—The distilled water, in leucorrhœa, fluxes.

Six pounds of fresh roses impregnate, by distillation, a gallon or more of water strongly with their fine flavour.

261. ROSA. DAMASCENA. (Damask Rose.)—SPECIFIC CHAR: *Calyx* semipinnate. *Fruit* ovate, turgid, with the *peduncles* hispid. *Stem* and *petioles* prickly. *Leaflets* ovate, acuminate, villose underneath.

Place.—Europe.

Quality.—Fragrant.

Power.—Tonic.

Use.—The distilled water, in debility.

262. ROSA. CANINA. (Dog Rose.)—SPECIFIC
 CHAR: *Fruit* ovate, with the *peduncles* smooth.
Prickles on the stem, hooked. *Leaflets* ovate,
 acuminate, very smooth.

Place.—Woods of Europe.

Quality.—Fragrant.

Power.—Astringent.

Use.—The petals, in distilled water, in debility.

The hews or fruit make a beautiful conserve ; for this purpose, the seeds and chaffy fibres are to be carefully removed.

263. ROSA. ALBA. (White Rose.) — SPECIFIC
 CHAR: *Fruit* ovate, smooth. *Peduncles* hispid.
Stem and *petioles* prickly.

Place.—Europe.

Quality.—Fragrant.

Power.—Analeptic.

Use.—The distilled water, in ophthalmia, leucorrhœa.

264. RUBUS. (Raspberry.) *Nat: Order*, senticosæ.
 —ESSENTIAL CHAR: *Calyx* five-cleft. *Petals*
 five. *Berry* composed of one-seeded acini.

R. IDÆUS. (Raspberry.)—SPECIFIC CHAR: *Leaves*
 quinate, pinnate, and ternate, tomentose underneath.
Petioles channelled. *Stem* prickly.

Place.—Rocky hills of Europe.

Quality.—Acidulous, agreeable.

Power.—Cooling.

Use.—The fruit, to allay thirst in fevers, calculus.

265. RUBUS. ARCTICUS. (Dwarf-crimson Bramble.) — SPECIFIC CHAR: *Leaves* ternate, smooth. *Stem* unarmed, one-flowered.

Place.—The meadows of Norway.

Quality.—Acidulous.

Power.—Softening, cooling, and cordial.

Use.—The berry, in putrid fevers, eruptions, scurvy.

266. RUBUS. CHAMÆMORUS. (Cloud - berry.) — SPECIFIC CHAR: *Leaves* simple, lobed. *Stem* unarmed, one-flowered. *Calycine-segments* ovate.

Place.—Marshy woods of Sweden.

Quality.—Aqueous, esculent,

Power.—Diluting, cooling.

Use.—The berry, in spitting of blood, consumption, scurvy.

267. FRAGARIA. (Strawberry.) *Nat: Order*, senticosæ.—ESSENTIAL CHAR: *Calyx* ten-cleft. *Petals* five. *Receptacle* of the seeds ovate, and like a berry.

F. VESCA.—SPECIFIC CHAR: Creeping by runners.

Place.—Woods and gardens of Europe.

Quality.—Aqueous, acid, cooling, nourishing.

Power.—Diluting, diuretic.

Use.—The fruit, in calculus, fevers, consumption, and wonderful in curing, and keeping off, the gout.

268. POTENTILLA. (Cinquefoil.) *Nat: Order*, senticosæ.—ESSENTIAL CHAR: *Calyx* ten-cleft. *Petals* five. *Seeds* roundish, naked, fastened to a small juiceless receptacle.

P. ANSERINA.—SPECIFIC CHAR: *Leaves* interruptedly pinnate, serrate, silky underneath. *Stem* creeping. *Peduncles* one-flowered.

Place.—The fields of Europe.

Quality.—Insipid.

Power.—Astringent.

Use.—The root and herb, in the jaundice, prolapsus, leucorrhœa, calculus.

269. **POTENTILLA. REPTENS.** (Common-creeping Cinquefoil.)—SPECIFIC CHAR: *Leaves* quinate, obovate, serrate. *Stem* creeping. *Peduncles* one-flowered.

Place.—The highways of Europe.

Quality.—Styptic.

Power.—Vulnerary, astringent.

Use.—The root and herb, in dysentery.

The herb may be used as tea, and the root in decoction; an oz. of which may be boiled in a pint and a half of water, to a pint. Dose—four table spoonsful three times a day.

270. **TORMENTILLA.** (Tormentil.) *Nat: Order,* senticosæ.—ESSENTIAL CHAR: *Calyx* eight-cleft, inferior. *Petals* four. *Seeds* roundish, naked, wrinkled, fastened to a small juiceless receptacle.

T. ERECTA.—SPECIFIC CHAR: *Stem* somewhat upright, branched. *Leaves* sessile.

Place.—The meadows of Europe.

Quality.—Styptic.

Power.—Astringent.

Use.—The root and herb, in diarrhœa, dysentery, stomach affections, voiding of blood.

Two oz. of the root, boiled in three pints of water to a quart, to which may be added a little cinnamon: 2 oz. or more of the strained liquor may be taken four or five times a day.

271. GEUM. (Avens.) *Nat: Order, senticosæ.*—
 ESSENTIAL CHAR: *Calyx* ten-cleft. *Petals*
 five. *Seeds* with a kneed awn.

G. URBANUM.—SPECIFIC CHAR: *Flowers* up-
 right. *Awns* hooked, naked. *Stem-leaves* ter-
 nate. *Root-leaves* lyrate, pinnate.

Place.—Groves of Europe.

Quality.—Styptic, antacid.

Power.—Astringent, expelling, sudorific.

Use.—The root and herb, in small-pox, dysentery,
 intermittent fevers.

The root may be given in decoction, powder, or electuary, in
 the proportion in which the *cinchona bark* is commonly em-
 ployed.

272. GEUM. RIVALE. (Water Avens.)—SPECIFIC
 CHAR: *Flowers* nodding. *Awns* hooked, vil-
 lose. *Petals* retuse, roundish, wedge-shaped.
Leaves pinnate.

Place.—Especially the North of Europe, in moist
 and marshy meadows.

Quality.—Styptic, antacid.

Power.—Astringent.

Use.—The root, in intermittent fevers.

CLASS XIII.—POLYANDRIA.

Order 1.—MONOGYNIA.

273. CAPPARIS. (Caper-bush.) *Nat: Order*, putamineæ.—*ESSENTIAL CHAR: Calyx* four-leaved, coriaceous. *Petals* four. *Stamens* long. *Berry* corticose, one-celled, pedicelled.

C. SPINOSA.—*SPECIFIC CHAR: Peduncles* one-flowered, solitary. *Stipules* spiny. *Leaves* annual. *Capsules* oval.

Place.—Italy, Walls at Narbonne.

Quality.—Dry, somewhat bitter.

Power.—Astringent, diuretic, emmenagogue.

Use.—The bark of the root, flowers, and fruit, in vinegar, in hypochondriasis, paralysis.

274. ACTÆA. (Herb Christopher.) *Nat: Order*, multisiliquæ. — *ESSENTIAL CHAR: Calyx* four-leaved. *Corolla* four-petalled. *Berry* one-celled. *Seeds* semiorbicular, in two rows.

A. RACEMOSA.—*SPECIFIC CHAR: Racemes* very long. *Fruit* dry.

Place.—Virginia, Siberia.

Quality.—Fœtid, rather poisonous. III

Power.—Repelling, sudorific, anodyne.

Use.—The root, in female debility.

275. CHELIDONIUM. (Celandine.) *Nat: Order*, rhœadææ.—*ESSENTIAL CHAR: Corolla* four-petalled. *Calyx* two-leaved. *Silique* one-celled, linear.

C. MAJUS.—SPECIFIC CHAR: *Peduncles* umbelled.

Place.—The high roads of Europe.

Quality.—A yellow juice, bitter, acrid, caustic.

Power.—Diuretic, diaphoretic.

Use.—The root and herb, in jaundice, dropsy, and herpes.

Half a dr. of the dry root in powder, or an infusion in wine or water of a dr. or a dr. and a half of the fresh root, or 3 or 4 drops of its yellow juice, are directed for a dose.

276 PAPAVER. (Poppy.) *Nat: Order*, rhœades.
—ESSENTIAL CHAR: *Calyx* two-leaved.
Corolla four-petalled. *Capsules* one-celled, opening by holes under the permanent *stigmas*.

P. RHÆAS. — SPECIFIC CHAR: *Capsules* urn-shaped, smooth. *Stem* hairy, many-flowered.
Leaves pinnatifid, incised.

Place.—The fields of Europe.

Quality.—Somewhat bitter.

Power.—Anodyne.

Use.—The herb and flowers, in pleurisy, and catarrh.

277. PAPAVER. SOMNIFERUM. (White Poppy.)
—SPECIFIC CHAR: *Calyx* and *capsules* smooth. *Leaves* embracing, incised.

Place.—Fields of Europe.

Quality.—Somewhat bitter.

Power.—Anodyne.

Use.—The herb and flowers, in pleurisy, and catarrh.

278. CAMBOGIA. (Cambogia.) *Nat: Order*, tri-coccæ. — ESSENTIAL CHAR: *Calyx* four-leaved. *Corolla* four-petalled. *Pome* eight-celled. *Seeds* solitary.

C. GUTTA.

Place.—Malabar, Ceylon.

Quality.—Gum-resinous, yellow, shining, insipid, inodorous.

Power.—Drastic, hydragogue, subemetic.

Use.—The juice, in quartans, dropsy, jaundice, asthma, tænia.

Dose—10 gr. of the concreted juice.

279. **NYMPHÆA.** (Water Lily.) *Nat: Order*, succulentæ.—**ESSENTIAL CHAR:** *Calyx* four, five, or six-leaved. *Corolla* many-petalled. *Berry* many-celled, truncated.

N. ALBA.—**SPECIFIC CHAR:** *Leaves* cordate, quite entire. *Lobes* imbricate, rounded. *Calyx* four-leaved.

Place.—Stagnate waters, and rivers of Europe.

Quality.—Flowers fragrant, root acrid, soapy.

Power.—Flowers cooling, anodyne, producing sleep.

Use.—The root and flowers, in diarrhœa, gonorrhœa, fevers.

280. **BIXA.** (Anotta.) *Nat: Order*, columniferæ.—**ESSENTIAL CHAR:** *Calyx* five-toothed. *Corolla* ten-petalled. *Capsules* hispid, bivalve.

B. ORLEANA.

Place.—Mexico.

Quality.—Somewhat bitter, and aromatic.

Power.—Cooling, strengthening, stomachic.

281. **TILIA.** (Lime Tree.) *Nat: Order*, columniferæ.—**ESSENTIAL CHAR:** *Calyx* five-parted. *Corolla* five-petalled. *Capsules* coriaceous, globular, five-celled, five-valved, opening at the base, one-seeded.

T. EUROPEA.—SPECIFIC CHAR: *Flowers* destitute of a nectary. *Leaves* cordate at the branches of the veins, villose underneath.

Place.—Meadows of Europe.

Quality.—Anodyne, antispasmodic.

Use.—The interior bark, and flowers, in vertigo, and epilepsy.

282. **THEA.** (Tea.) *Nat: Order*, columniferæ.—
 ESSENTIAL CHAR: *Corolla* six or nine-petalled. *Calyx* five or six-leaved. *Capsules* tricoccous.

T. BOHEA.

Place.—China, Japan.

Quality.—Styptic.

Power.—Strengthening, drying, diuretic.

Use.—The leaves, in drowsiness, convulsions, calculus, obesity; hurtful to weak stomachs.

283. **CARYOPHYLLUS.** (Clove Tree.) *Nat: Order*, hesperidæ.—
 ESSENTIAL CHAR: *Corolla* four-petalled. *Calyx* four-leaved, duplicate. *Berry* one-seeded, inferior.

C. AROMATICUS.

Place.—Molucca Islands.

Quality.—Aromatic, heating.

Power.—Tonic, stomachic, emmenagogue.

Use.—The fruit, in tooth-ache, nausea, paralysis, vertigo.

Dose—5 gr. to 15.; of the oil, 1 to 3 drops. Directions for making the infusion:—take of cloves, bruised, a dr.; boiling water, half a pint; macerate for two hours in a vessel lightly covered, and strain. Dose—from 1 to 2 oz.

284. **CISTUS.** (Cistus.) *Nat: Order*, rotaceæ.—
 ESSENTIAL CHAR: *Corolla* five-petalled. *Calyx* five-leaved, with two of the leaflets smaller.

C. CRÉTICUS.—SPECIFIC CHAR: *Leaves* spatulate, ovate, petioled, nerveless, rugged. *Calyx* lanceolate.

Place.—Islands of the Ægean Sea, Crete.

Quality.—Resinous, bitter, grateful as a smoke.

Power.—Paregoric, stomachic.

Use.—The gum, in dysentery, catarrh.

Order 2.—DIGYNIA.

285. PÆONIA. (Peony.) *Nat: Order*, multisiliquæ. —ESSENTIAL CHAR: *Calyx* five-leaved. *Petals* five. *Styles* none. *Capsules* many-seeded.

P. OFFICINALIS. — SPECIFIC CHAR: *Leaves* doubly pinnate, sublobed. *Leaflets* oblong, veined underneath.

Place.—The Alps.

Quality.—Fœtid.

Power.—Seeds and flowers, subastringent, narcotic, antispasmodic, anodyne, expelling, emmenagogue.

A dr. or 2 of the powder may be taken two or three times a day.

Order 3.—TRIGYNIA.

286. DELPHINIUM. (Lark-spur.) *Nat: Order*, multisiliquæ. — ESSENTIAL CHAR: *Calyx* none. *Petals* five. *Nectary* cloven, produced into a horn behind. *Siliques* three or one.

D. CONSOLIDA.—SPECIFIC CHAR: *Nectaries* one-leaved. *Stem* subdivided.

Place.—Fields of Europe.

Quality, power, and dose, doubtful.

287. DELPHINIUM. STAPHISAGRIA. (Lousewort.) — SPECIFIC CHAR: *Nectaries* four-leaved, shorter than the petal. *Leaves* palmate, with the lobes obtuse.

Place.—Italy.

Quality.—Bitter, nauseous.

Power.—Drastic, anthelmintic.

Use.—The seeds, to stupify fish, so that they may be caught; to kill lice, being put into pomatum, to destroy vermin in the body, toothache.

This plant is too powerful for internal use; but experience has given it a very appropriate name—*lousewort*.

288. ACONITUM. (Monk's-hood.) *Nat: Order*, multisiliquæ. — ESSENTIAL CHAR: *Calyx* none. *Petals* five; the highest arched, shaped like a hood or helmet. *Nectaries* two, peduncled, recurved. *Capsules* three or five.

A. NAPELLUS.—SPECIFIC CHAR: division of the leaves linear, broader above, and scored with a line.

Place.—The moist fields of Europe.

Quality.—Substyptic, acrid, nauseous, somewhat poisonous.

Power.—Corroding, blistering, excoriating, a drastic vomit, vertiginous, sudorific, sternutatory.

Dose—of the extract, from 1 gr. gradually augmented to 5 gr.

289. ACONITUM. ANTHORA. (Salutary Monk's-hood.) *Flowers* with five pistils; divisions of the leaves linear.

Place.—The Alps of Europe.

Quality.—Bitter, acrid, somewhat poisonous.

Power.—Purging, against worms.

Use.—The root, in eruptive fevers.

Order 5.—PENTAGYNIA.

290. **AQUILEGIA.** (Columbine.) *Nat: Order,* multisiliquæ. — **ESSENTIAL CHAR:** *Calyx* none. *Petals* five. *Nectaries* five-horned, between the petals. *Capsules* five, distinct.

A. VULGARIS.—**SPECIFIC CHAR:** *Nectaries* incurved.

Place.—Europe.

Quality.—Herbaceous, somewhat poisonous.

Power.—Expelling.

Use.—The herb, flowers, and seeds, in eruptive fevers, scabies, jaundice.

Dose—from half a dr. to a dr. of the powdered seeds.

291. **NIGELLA.** (Fennel-flower.) *Nat: Order,* multisiliquæ. — **ESSENTIAL CHAR:** *Calyx* none. *Petals* five. *Nectaries* five or more, two-lipped, within the corolla. *Capsules* as many, connected or separate, beaked, opening inwards.

N. SATIVA.—**SPECIFIC CHAR:** *Pistils* five. *Capsules* muricated, roundish. *Leaves* somewhat hairy.

Place.—Crete, Egypt.

Quality.—Acrid, fragrant, somewhat poisonous.

Power.—Expelling, sternutatory, emmenagogue, anthelminthic.

Use.—The seeds, in catarrh.

Order 6.—POLYGYNIA.

292. ILLICIUM. (Aniseed Tree.) *Nat: Order, coadunatæ.*—*ESSENTIAL CHAR: Calyx* six-leaved. *Petals* twenty-seven. *Capsules* several, disposed in a circle, bivalve, one-seeded.

I. ANISATUM.—*Flowers* yellow.

Place.—China.

Quality.—Aromatic, with the smell of anise-seed.

Power.—Stomachic, carminative, diuretic, pectoral.

Use.—The fruit, in calculus, and cough.

293. ANEMONE. (Anemone.) *Nat: Order, multisiliquæ.*—*ESSENTIAL CHAR: Calyx* none. *Petals* six or nine. *Seeds* many.

A. HEPATICA.—*SPECIFIC CHAR: Leaves* three-lobed, quite entire.

Place.—The dark woods of Europe.

Quality.—Insipid, inodorous.

Power.—Astringent, tonic.

Use.—The herb and flowers, in hypochondriasis, hernia.

294. ANEMONE. PULSATILLA. (Pasque-flower.)
—*SPECIFIC CHAR: Peduncle* involucred. *Petals* straight. *Leaves* bipinnate.

Place.—The sunny hills of Europe.

Quality.—Somewhat poisonous.

Power.—Corroding, rubefacient.

Use.—The herb, in fevers.

The extract may be given in doses, from 7 gr. to three or four times that quantity, twice or thrice a day.

295. ANEMONE. NEMOROSA. (Wood Anemone.)
— SPECIFIC CHAR: *Seeds* acute. *Leaflets*
gashed. *Stem* one-flowered.

Place.—Woods.

Quality.—Acrid, somewhat poisonous.

Power.—Corroding, cosmetic.

Use.—The flowers, in violent head-aches.

296. RANUNCULUS. (Crow-foot.) *Nat: Order*,
multisiliquæ. — ESSENTIAL CHAR: *Calyx*
five-leaved. *Petals* five to eight, with a
honeyed pore at the claw. *Seeds* naked.

R. FICARIA.—SPECIFIC CHAR: *Leaves* cordate,
angular, petioled. *Petals* numerous.

Place.—The moist cultivated meadows of Europe.

Quality.—Insipid.

Power.—Cosmetic, diuretic.

Use.—The herb and root, in scurvy, varix of the
anus.

The *R. Acris*, may be used externally as a vesicatory, and has
the advantage of a common blistering plaster, in producing a
quicker effect, and never causing stranguary.

297. HELLEBORUS. (Hellebore.) *Nat: Order*,
multisiliquæ. — ESSENTIAL CHAR: *Calyx*
none. *Petals* five, or more. *Nectaries* two-
lipped, tubular. *Capsules* many-seeded.

H. NIGER. — SPECIFIC CHAR: *Stem* almost
naked, with one or two flowers. *Leaves*
pedate.

Place.—The Alps.

Quality.—Acrid, bitter, rather nauseous, foetid.

Power.—Purging, emmenagogue.

Use.—The root, in madness, melancholy, hypo-
chondriasis, chlorosis.

Dose—a scruple of the root, or half a scruple of the extract.

CLASS XIV.—DIDYNAMIA.

Order 1.—GYMNOSPERMIA.

298. AJUGA. (Bugle.) *Nat: Order*, verticillatæ.
—**ESSENTIAL CHAR:** *Corolla* upper lip very small. *Stamina* longer than the upper lip.

A. PYRAMIDALIS. — **SPECIFIC CHAR:** *Spike* a quadrangular, villose, pyramid. *Leaves* approximating. *Root-leaves* very large. *Bractes* nearly entire.

Place.—The mountainous meadows of Europe.

Quality.—Bitter.

Power.—Subastringent, vulnerary.

Use.—In contusions.

It may be employed both externally and internally.

299. TEUCRIUM. (Germander.) *Nat: Order*, verticillatæ.—**ESSENTIAL CHAR:** *Corolla* upper lip two-parted, beyond the base, divaricating where the *stamens* are.

T. CHAMÆPITYS.—**SPECIFIC CHAR:** *Leaves* trifid, linear, quite entire. *Flowers* sessile, lateral, solitary. *Stem* diffused.

Place.—Italy, England.

Quality.—Resinous, aromatic, bitter.

Power.—Tonic, stomachic, expelling, emmenagogue.

Use.—The herb, in rheumatism, gout, fever.

300. TEUCRIUM. CRETICUM. (Cretan Germander.)
—SPECIFIC CHAR: *Leaves* lanceolate, linear,
quite entire. *Flowers* racemed, tern.

Place.—Crete.

Quality.—Bitter.

Power.—Tonic.

Use.—The herb, in calculus, jaundice.

301. TEUCRIUM. MARUM. (Common Marum.)
—SPECIFIC CHAR: *Leaves* quite entire, ovate,
petioled, tomentose beneath. *Flowers* race-
med, all directed one way.

Place.—Italy.

Quality.—Very bitter.

Power.—Resolvent, nervous, expelling, diuretic,
emmenagogue, errhine, cordial, tonic.

Use.—The herb and leaves, in cachexia, dropsy,
asthma, hysterics.

The dose of the powdered leaves is from a scruple to half a
dr. given in wine.

302. TEUCRIUM. SCORDIUM. (Sage-leaved Ger-
mander.)—SPECIFIC CHAR: *Leaves* cordate,
serrate, petioled. *Racemes* lateral, directed
one way. *Stem* erect.

Place.—Europe, Gothland.

Quality.—Bitter, acrid.

Power.—Balsamic, tonic, antiputrescent, antife-
brile, expelling, diaphoretic, anthelminthic.

Use.—The herb, in gangrene, fever, plague, ulcers.

303. TEUCRIUM. CHAMÆDRYS. (Common Ger-
mander.)—SPECIFIC CHAR: *Leaves* subovate,
petioled, gashed, crenate. *Flowers* axillary,
peduncled, tern. *Stem* round, hairy.

Place.—Italy, France, England, Germany.

Quality.—Bitter.

Power.—Balsamic, tonic, stomachic, expelling, sudorific, emmenagogue.

Use.—The herb, in arthritis, gout, scrophula, catarrh, chlorosis.

An infusion is the best mode of administering it; of which 2 or 3 oz. may be given once a day.

304. SATUREJA. (Savory.) *Nat: Order*, verticillatæ. — *ESSENTIAL CHAR: Corolla* with segments nearly equal. *Stem* distant.

S. HORTENSIS.—*SPECIFIC CHAR: Peduncles* two-flowered.

Place.—Montpelier.

Quality.—Aromatic.

Power.—Resolvent, exciting, expelling, stomachic, emmenagogue, aphrodisiac.

Use.—The herb and seeds, in debility of stomach, and for procreation.

305. SATUREJA. CAPITATA. (Ciliated Savory.) — *SPECIFIC CHAR: Flowers* in spikes. *Leaves* keeled, dotted, ciliate.

Place.—Greece, Crete.

Quality.—Like thyme, but stronger.

Use.—The herb, in nervous debility.

306. HYSSOPUS. (Hyssop.) *Nat: Order*, verticillatæ. — *ESSENTIAL CHAR: Corolla* lower lip with a small middle crenate segment. *Stamina* straight, distant.

H. OFFICINALIS.—*SPECIFIC CHAR: Spikes* directed one way. *Leaves* lanceolate.

Place.—The Alps.

Quality.—Very bitter.

Power.—Balsamic, tonic, resolvent, expectorant, stomachic.

Use.—The herb and seed, in coughs, humoural asthma, gout, calculus.

To be drank plentifully as tea; and its external application is very efficacious, in the way of fomentation and poultice, in contusions, and for removing the blackness occasioned by the extravasated fluids.

307 **NEPETA**. (Catmint.) *Nat: Order*, verticillatæ.—**ESSENTIAL CHAR**: *Corolla* lower lip with an intermediate segment, crenate; throat reflex at the edge. *Stamina* approximating.

N. CATARIA.—**SPECIFIC CHAR**: *Flowers* in spikes. *Whorls* subpedicelled. *Leaves* petioled, cordate, tooth serrate.

Place.—Europe, on the road-sides.

Quality.—Goaty, bitter.

Power.—Resolving, expelling, cephalic, emmenagogue, anthelmintic.

Use.—The herb, in hysterics, chlorosis.

Dose—a dr. of the powder, or an infusion.

308. **LAVANDULA**. (Lavender.) *Nat: Order*, verticillatæ.—**ESSENTIAL CHAR**: *Calyx* ovate, obscurely toothed, supported by a *bracte*. *Corolla* resupine. *Stamina* within the tube.

L. SPICA.—**SPECIFIC CHAR**: *Leaves* sessile, lanceolate, linear, rolled back at the edge. *Spike* interrupted, naked.

Place.—Italy, Spain, France.

Quality.—Bitter.

Power.—Nervous, resolvent, cephalic, uterine.

Use.—The flowers, in loss of voice, lowness.

This is one of the most powerful stimulants to the nervous system, whether externally applied, or given internally.

309. LAVANDULA. STÆCHAS. (French Laven-
der.) — SPECIFIC CHAR: *Leaves* sessile,
linear, tomentose, rolled back at the edge.
Spike contracted, comose. *Bractes* subtri-
lobate.

Place.—Spain, Portugal, France.

Quality.—Exhilarating.

Use.—The flowers, in paralysis, vertigo, hypo-
chondriasis.

310. MENTHA. (Mint.) *Nat: Order*, verticillatæ.
—ESSENTIAL CHAR: *Corolla* almost equal,
four-cleft; the broader segment emarginate.
Stamina upright, distant.

M. AURICULARIA. — SPECIFIC CHAR: *Spikes*
cylindrical. *Leaves* oblong, acute, serrate,
hairy, subsessile. *Stem* strigose. *Stamens*
longer than the *corolla*.

Place.—The watery places of the East Indies.

Quality.—Bitter.

Power.—Resolvent.

Use.—The herb, in tumours.

311. MENTHA. SYLVESTRIS. (Horse-mint.)—SPE-
CIFIC CHAR: *Spike* oblong. *Leaves* oblong,
serrate, tomentose, sessile. *Stamens* longer
than the *corolla*.

Place.—England, Germany, and France.

Quality.—Somewhat bitter.

Power.—Weaker than the last, but more astringent.

Use.—The herb, in calculus, hysterics, colic,
vomiting.

312. MENTHA. CRISPA. (Curled Mint.)—SPECIFIC CHAR: *Flowers* in heads. *Leaves* cordate, toothed, waved, sessile. *Stamens* equaling the *corolla*.

Place.—Europe.

Quality.—Somewhat bitter.

Power.—Resolvent, expelling, carminative, emmenagogue, repelling milk, stomachic.

Use.—The herb, in soporific complaints, cephalalgia, vomiting, colic, hysterics, difficult menstruation, leucorrhœa, asthma, convulsive cough.

313. MENTHA. PIPERITA. (Pepper-mint.)—SPECIFIC CHAR: *Flowers* in heads. *Leaves* ovate, petioled. *Stamens* shorter than the *corolla*.

Place.—England.

Quality.—As the former, but more powerful, with a sense of cold.

Power.—As the other, but more powerful.

Use.—As the former, but to be preferred.

Dose—from 1 to 4 drops of the oil, in cramps of the stomach; of the spirit, from a dr. to half an ounce; of the water, from 1 oz. to 4 oz.

314. MENTHA. PULEGIUM. (Penny-royal.)—SPECIFIC CHAR: *Flowers* in whorls. *Leaves* ovate, blunt, subcrenate. *Stems* roundish, creeping. *Stamens* longer than the *corolla*.

Place.—Germany, England, and the moist parts of France.

Quality.—As the former.

Power.—Emmenagogue.

Use.—The herb, in asthma, convulsive cough, and hoarseness; also in promoting the uterine evacuation.

This is a very useful carminative, and emmenagogue; and may be employed with advantage in hysterical affections.

315. GLECOMA. (Ground Ivy.) *Nat: Order*, verticillatæ.—*ESSENTIAL CHAR: Calyx* five-cleft. Each pair of *anthers* converging in form of a cross.

G. HEDERACEA.—*SPECIFIC CHAR: Leaves* kidney-shaped, crenate or scalloped.

Place.—The hedges of Europe.

Quality.—Somewhat bitter.

Power.—Tonic, vulnerary.

Use.—The herb, in internal ulcers, the colic of hypochondriacs, cough, cephalalgia, madness.

This plant is usually taken in the way of infusion, or drank as tea.

116. LAMIUM. (Archangel.) *Nat: Order*, verticillatæ.—*ESSENTIAL CHAR: Corolla* upper lip entire, vaulted; lower lip two-lobed; throat with a reflex toothlet on each side.

L. ALBUM.—*SPECIFIC CHAR: Leaves* cordate, acuminate, serrate, petioled. *Whorls* twenty-flowered.

Place.—The cultivated road-sides of Europe.

Quality.—Oleraceous.

Power.—Stimulant.

Use.—The herb, in tea, in leucorrhœa, and scorbutic humours.

117. BETONICA. (Betony.) *Nat: Order*, verticillatæ.—*ESSENTIAL CHAR: Calyx* awned. *Corolla* upper lip ascending, flattish; tube cylindric.

B. OFFICINALIS.—SPECIFIC CHAR: *Spike* interrupted; helmet of the *corolla* entire; middle division of the lower lip emarginate. *Calyx* smooth.

Place.—South of Europe.

Quality.—Dry; root nauseous.

Power.—Nervous, tonic, errhine; root emetic.

Use.—The herb, in cephalalgia, hysterics.

318. MARRUBIUM. (Horehound.) *Nat: Order*, verticillatæ.—ESSENTIAL CHAR: *Calyx* salver-shaped, rigid, ten-streaked. *Corolla* upper lip bifid, linear, straight.

M. VULGARE.—SPECIFIC CHAR: Teeth of the *calyx* bristle-shaped, hooked.

Place.—The clayey road-sides of Europe.

Quality.—Strong smelling, somewhat bitter, disagreeable.

Power.—Expelling, emmenagogue.

Dose—a dr. of the dry leaves, in powder; or 2 or 3 oz. of the expressed juice; or an infusion of half a handful of the dried leaves, may be given once a day.

319. LEONURUS. (Mother-wort.) *Nat: Order*, verticillatæ.—ESSENTIAL CHAR: *Anthems* having shining dots sprinkled over them.

L. CARDIACA.—SPECIFIC CHAR: *Stem-leaves* lanceolate, trifid.

Place.—The road-sides of Europe.

Quality.—Dry.

Power.—Strengthening.

Use.—The herb, in hysterics, hypochondriasis.

To be drank as tea.

320. ORIGANUM. (Marjoram.) *Nat: Order*, verticillatæ.—ESSENTIAL CHAR: *Strobile* four-cornered, spiked, collecting the *calyxes*.

A. DICTAMNUS.—SPECIFIC CHAR: Lower *leaves* tomentose. *Spikes* nodding.

Place.—Mount Ida, in Crete.

Quality.—Heating.

Power.—Resolvent, expelling, uterine, emmenagogue.

321. ORIGANUM. CRETICUM. (Cretan Marjoram.)
—SPECIFIC CHAR: *Spikes* aggregate, long, prismatic, straight. *Bractes* membranaceous, twice as long as the *calyx*.

Place.—Crete.

Quality.—Warm.

Power.—Stimulant.

Use.—The herb, in tooth-ache.

A drop or two of the essential oil, has been much used, by dropping it on cotton, and inserting it in the cavity of the aching tooth.

322. ORIGANUM. VULGARE. (Common Marjoram.)—SPECIFIC CHAR: *Spikes* roundish, paniced, conglomerate. *Bractes* longer than the *calyx*, ovate.

Place.—The mountains of Europe; especially Upland, in Sweden.

Quality.—Bitterish, subacid, used in dying.

Power.—Corroborant, abstergent, resolvent, exciting.

Use.—The herb, in cough, asthma, phthisis, chlorosis, œdema; as well as in tooth-ache.

The dried leaves, used instead of tea, are said to be exceedingly grateful.

323. ORIGANUM. MARJORANA. (Sweet Marjoram.) — SPECIFIC CHAR: *Leaves* ovate, blunt. *Spikes* roundish, compact, pubescent.

Place.—Spain.

Quality.—Bitterish, sweet smelling.

Power.—Tonic, resolvent, nervous, cephalic, errhine, stomachic.

Use.—The herb, in defluxion of the nose, and loss of smell.

In its recent state, it has been successfully applied to scirrhus tumours of the breasts.

324. THYMUS. (Thyme.) *Nat : Order*, verticillatæ.—**ESSENTIAL CHAR**: Throat of the two-lipped *calyx* closed, with villose hairs.

T. SERPYLLUM.—**SPECIFIC CHAR**: *Flowers* in heads. *Stem* decumbent. *Leaves* flat, ovate, obtuse, ciliate at the base.

Place.—The dry parts of France.

Quality.—Aromatic, sweet smelling.

Power.—Resolvent, exciting, expelling, nervous, corroborant, tonic, stomachic, emmenagogue.

Use.—The herb, in old age, leucophlegmasia, coryza, flux of tears from the eyes, cephalalgia.

325. THYMUS. VULGARIS. (Common Thyme.)
—**SPECIFIC CHAR**: *Flowers* whorl-spiked.
Stems erect. *Leaves* ovate, rolled back.

Place.—The dry parts of France; also England.

Quality, power, and use, as the former.

The aromatic qualities of this plant will be found equally useful in those complaints for which *lavender, sage, rosemary, &c.*, are usually employed.

326. MELISSA. (Balm.) *Nat : Order*, verticillatæ.
—**ESSENTIAL CHAR**: *Calyx* dry, flattish above; upper lip subfastigate. *Corolla* upper lip somewhat arched, bifid; lower lip, with the middle lobe, heart-shaped.

M. OFFICINALIS. — SPECIFIC CHAR: *Racemes* axillary, whorled. *Pedicels* simple.

Place.—Mountains of Italy.

Quality.—Sweet smelling, with the odour of the citron.

Power.—Resolvent, exciting, expelling, cordial, tonic, emmenagogue, diuretic.

Use.—The herb, in melancholy, hypochondriasis, hysterics, palpitation.

327. MELISSA. CALAMINTHA. (Mountain Balm.)
—SPECIFIC CHAR: *Peduncles* axillary, dichotomous, the length of the leaves; lower lip of the *calyx* longer than the upper segments.

Place.—Mountains of Italy, Spain, and France.

Quality.—The odour of the citron, but weaker.

Power.—Resolvent, expelling, expectorant, stomachic.

Use.—The herb, in asthma.

328. DRACOCEPHALUM. (Dragon's-head.)
Nat: Order, verticillatæ.—ESSENTIAL CHAR: *Corolla* throat inflated; upper lip concave.

D. CANARIENSE.—SPECIFIC CHAR: *Leaves* compound.

Place.—The Canary Islands.

Quality.—Aromatic.

Power.—Nervous, resolvent.

Use.—The herb, in decays, cephalalgia.

329. DRACOCEPHALUM. MOLDAVICA. (Moldavian Dragon's-head.)—SPECIFIC CHAR: *Leaves* dotted underneath. *Bractes* lanceolate; the *serratures* capillaceous.

Place.—Moldavia.

Quality.—Scented.

Power.—Nervous, resolvent.

Use.—The herb and seeds, in cephalalgia.

330. OCIMUM. (Basil.) *Nat: Order*, verticillatæ.
—**ESSENTIAL CHAR**: *Calyx* with the upper lip orbiculate; the lower four cleft. *Corolla* resupine; with one lip four-cleft, the other undivided. *Filaments* the two outer putting forth a reflex process at the base.

O. BASILICUM.—**SPECIFIC CHAR**: *Leaves* ovate, smooth. *Calyx* ciliate.

Place.—Ceylon, India.

Quality.—scented; seeds mucilaginous.

Power.—Nervous, cordial, expelling.

Use.—The herb, in vomiting; the seed in de-fluxions.

331. PRUNELLA. (Self-heal.) *Nat: Order*, verticillatæ.—**ESSENTIAL CHAR**: *Filaments* forked, with an anther on one of the forks. *Stigma* bifid.

P. VULGARIS.—**SPECIFIC CHAR**: All the *leaves* ovate, oblong, petioled.

Place.—The meadows and fields of Europe.

Quality.—Subodorous.

Power.—Subastringent.

Use.—The herb, in angina.

Order 2.—ANGIOSPERMIA.

332. EUPHRASIA. (Eye-bright.) *Nat: Order*, personatæ.—**ESSENTIAL CHAR**: *Calyx* four-cleft, cylindric. *Capsules* two-celled, ovate, oblong. Lower *anthers* have a little thorn at the base of one of the lobes.

E. OFFICINALIS.—SPECIFIC CHAR: *Leaves* dentate, palmate. *Flowers* in a kind of head.

Place.—The sterile pastures of Europe.

Quality.—Fat, somewhat bitter.

Power.—Substringent.

Use.—The herb, in ophthalmia.

Eyes weakened by long-continued exertion, and those that are dim and watery, as in a senile state, are the cases in which this plant promises most advantage. The Icelanders are said to be in the constant habit of using its juice, in all affections of the eyes.

333. PEDICULARIS. (Louse-wort.) *Nat: Order*, personatæ.—ESSENTIAL CHAR: *Calyx* five-cleft. *Capsules* two-celled, mucronate, oblique. *Seeds* coated.

P. PALUSTRIS.—SPECIFIC CHAR: *Stem* branched. *Calyx* crested, callous, dotted. Lip of the *corolla* oblique.

Place.—The marshy meadows of Europe.

Quality.—Disagreeable.

Power.—Vulnerary.

Use.—The herb, in fistula.

334. ANTIRRHINUM. (Toad-flax.) *Nat: Order*, personatæ.—ESSENTIAL CHAR: *Calyx* five-leaved. *Corolla* with the base produced downwards, and nectariferous. *Capsules* two-celled.

A. LINARIA.—SPECIFIC CHAR: *Leaves* lanceolate, linear, crowded. *Stem* erect. *Spikes* terminal, sessile. *Flowers* imbricate.

Place.—The walls of Europe, and sandy places.

Quality.—Goaty, urinous, somewhat bitter.

Power.—The herb is anodyne, expellent, repelling, diuretic, purifying.

Use.—The herb, in ophthalmia, icterus, varix ani, dropsy.

This plant has been valued for its effects, when externally applied; especially in hæmorrhoidal affections, for which both the leaves and flowers have been employed in the various forms of ointment, fomentation, and cataplasin. An infusion of the flowers is said to be very efficacious in cutaneous disorders; the flowers, with those of *verbascum*, used as tea, cured an exanthematous disorder, which had resisted every other remedy tried during the course of three years.

335. **ANTERRHINUM. MAJUS.** (Great Toad-flax.)—**SPECIFIC CHAR:** *Corollas* tailless. *Flowers* in spikes. *Calyxes* rounded.

Place.—France, and fields of Italy.

Quality.—Inebriating.

Power.—Doubtful.

336. **SCROPHULARIA.** (Fig-wort.) *Nat: Order,* personatæ.—**ESSENTIAL CHAR:** *Calyx* five-cleft. *Corolla* subglobular, resupine. *Capsules* two-celled.

S. NODOSA.—**SPECIFIC CHAR:** *Leaves* cordate, acute, three-nerved at the base. *Stem* acute angled.

Place.—Hedges of Europe.

Quality.—Fœtid, bitter.

Power.—Anodyne, repellent, sudorific, carminative, anthelminthic.

Use.—The root, in scrophula, scabies, wounds.

337. **SCROPHULARIA. AQUATICA.** (Water Fig-wort.)—**SPECIFIC CHAR:** *Leaves* cordate, petioled, decurrent, blunt. *Stem* winged.

Place.—The South of Europe.

Quality.—Less fœtid than the former.

Power.—Sudorific.

Use.—The leaves, in pains of the bowels; a corrector of senna.

338. LINNÆA. (Linnæa.) *Nat: Order*, aggregatæ.
—ESSENTIAL CHAR: *Calyx* double; of the fruit two-leaved, of the flower five-parted, superior. *Corolla* bell-shaped. *Berry* dry, three-celled.

L. BOREALIS.—SPECIFIC CHAR: *Flowers* double.

Place.—The ancient woods of Sweden.

Quality.—Drying.

Power.—Subastringent.

Use.—The herb, in rheumatism, and scabies.

339. SESAMUM. (Sesamum.) *Nat: Order*, luridæ.
—ESSENTIAL CHAR: *Calyx* five-parted. *Corolla* bell-shaped, five-cleft, the lower lobe larger; rudiment of a fifth filament. *Stigma* lanceolate. *Capsules* four-celled.

S. ORIENTALE.—SPECIFIC CHAR: *Leaves* ovate, oblong, entire.

Place.—Malabar, Egypt.

Quality.—Oily.

Power.—Emollient, obtunding.

Use.—The seeds, in decays, pains, heats.

340. VITEX. (Chaste Tree.) *Nat: Order*, persennatæ.—ESSENTIAL CHAR: *Calyx* five-toothed. *Corolla* border six-cleft. *Drupe* one-seeded; a four-celled nut.

V. AGNUS CASTUS.—SPECIFIC CHAR: *Leaves* digitate, seven or five-leaved, lanceolate, mostly quite entire. *Spikes* whorled, paniced.

Place.—Naples, marshes of Sicily.

Quality.—Acrid, heating.

Power.—Subastringent, antivenereal.

Use.—The seeds, in hysterics, and gonorrhœa.

341. AVICENNIA. (Avicennia.) *Nat: Order*, personatæ. — *ESSENTIAL CHAR: Calyx* five-parted. *Corolla* bilabrate, upper lip square. *Capsules* coriaceous, rhomboidac, one-seeded.

A. TOMENTOSA.—*SPECIFIC CHAR: Leaves* cordate, ovate, tomentose underneath.

Place.—Malabar.

Quality.—Like almonds.

Power.—Nourishing.

Use.—The fruit, in loss of memory.

342. ACANTHUS. (Acanthus.) *Nat: Order*, personatæ.—*ESSENTIAL CHAR: Calyx* two-leaved, bifid. *Corolla* one-lipped, bent down, trifid. *Capsules* two-celled.

A. MOLLIS.—*SPECIFIC CHAR: Leaves* sinuate, unarmed.

Place.—Italy, Sicily.

Quality.—Glutinous.

Power.—Emollient, paregoric.

Use.—The herb, in burns, and clysters.

CLASS XV.—TETRADYNAMIA.

Order 1.—SILICULOSA.

343. LEPIDIUM. (Pepper-wort.) *Nat: Order,* siliquosæ.—ESSENTIAL CHAR: *Silicle* emarginate, cordate, many-seeded. *Valves* keeled, contrary.

L. SATIVUM.—SPECIFIC CHAR: (Garden or common Cress.) *Flowers* tetradynamious. *Leaves* oblong, multifid.

Place.—Spain.

Quality.—Acrid.

Power.—Diuretic, cleansing, antiscorbutic.

Use.—The herb and seeds, in scurvy, dropsy, asthma, hernia, calculus.

344. THLASPI. (Bastard Cress.) *Nat: Order,* siliquosæ.—ESSENTIAL CHAR: *Silicle* emarginate, obcordate, many-seeded. *Valves* boat-shaped, margined, and keeled.

T. ARVENSE.—SPECIFIC CHAR: *Silicles* orbicular, compressed, even. *Leaves* oblong, toothed, smooth.

Place.—The fields of Europe.

Quality.—Stimulant.

Power.—Expelling, uterine.

Use.—In rheumatism.

345. THALASPI. BURSA PASTORIS. (Common Shepherd's Purse.)—SPECIFIC CHAR: *Hirsute follicles* deltoid, obcordate. *Root-leaves* pinnatifid.

Place.—The road-sides of Europe.

Quality.—Bitter.

Power.—Subastringent.

Use.—The herb, in hæmorrhages.

346. COCHLEARIA. (Scurvy Grass.) *Nat: Order*, siliculosæ.—ESSENTIAL CHAR: *Silicle* emarginate, turgid, scabrous. *Valves* gibbous, obtuse.

C. OFFICINALIS.—SPECIFIC CHAR: *Root-leaves* cordate, roundish. *Stem-leaves* oblong, a little sinuate.

Place.—The sea-shores of Europe.

Quality.—Acrid, bitter, purging.

Power.—Diuretic, cleansing, antiscorbutic.

Use.—The herb and seed, in scurvy, cachexia, dropsy, hypochondriasis.

This may be considered as the most effectual of all antiscorbutic plants. The fresh plant, eaten as a sallad, or the expressed juice, are the best modes of using it.

347. COCHLEARIA. ARMORACIA (Horse Radish.)
—SPECIFIC CHAR: *Root-leaves* lanceolate, crenate. *Stem-leaves* gashed.

Place.—Marshes of Southern Europe.

Quality.—Acrid.

Power.—Stimulant, diuretic, cosmetic, cleansing, antiscorbutic.

Use.—The root, in scurvy, cachexia, dropsy, calculus, quartans, arthritis, cephalalgia.

One dr. of the root, fresh scraped down, and infused in 4 oz. of water for two hours, made into a syrup, with double its weight of sugar:—a tea spoonful or two of this syrrop swallowed leisurely, or at least two or three times, will be found effectual in relieving hoarseness. It acts also as a vomit.

Order 2.—SILIQUOSA.

348. **SISYMBRIUM.** (Water-cress.) *Nat: Order, siliquosæ.*—**ESSENTIAL CHAR:** *Silique* opening with straight valves. *Calyx* and *corolla* spreading.

S. NASTARTIUM.—**SPECIFIC CHAR:** *Siliques* declined. *Leaves* pinnate. *Leaflets* cordate, roundish.

Place.—The rivers and springs of Europe.

Quality.—Less acrid than *Cochlearia*.

Power.—Diuretic, antiscorbutic.

Use.—The herb and juice, in scurvy, obstipation of the bowels, snuffed up in polypus.

Used as a sallad.

349. **SISYMBRIUM. SOPHIA.** (Felix-weed.)—**SPECIFIC CHAR:** *Leaves* pinnate, decomposed, somewhat hairy. *Petals* smaller than the *calyx*.

Place.—Europe.

Quality.—Acrid, heating.

Power.—Astringent, anthelminthic.

Use.—The seeds, in diarrhœa, hysterics, and calculus.

350. **ERYSIMUM.** (Hedge Mustard.) *Nat: Order, siliquosæ.*—**ESSENTIAL CHAR:** *Silique* columnar, with four equal sides. *Calyx* closed.

E. OFFICINALIS.—**SPECIFIC CHAR:** *Siliques* pressed close to the spike. *Leaves* runcinate.

Place.—The road-sides of Europe.

Quality.—Acrid.

Power.—Abstergent, diuretic.

Use.—The herb, in asthma, hoarseness, cough, difficulty of passing water.

A syrup is made of it, by mixing an equal quantity of its juice with honey and sugar. In this way it will be found an useful remedy in ulcerations of the mouth and throat.

351. **ERYSIMUM. ALLIARIA.** (Stinking Hedge-mustard.)—SPECIFIC CHAR: *Leaves* cordate.

Place.—The groves of Europe.

Quality.—Bitter.

Power.—Diuretic, sternutatory.

Use.—The herb, in asthma, and the sphacelation of ulcers.

This plant is much esteemed as an external application, to promote suppuration and gangrenes of the leg, arising from neglected fracture and contusion, which have been cured by applying the bruised leaves with wine.

352. **CHEIRANTHUS.** (Wild Wall-flower.) *Nat:* *Order,* siliquosæ.—ESSENTIAL CHAR: *Germ* with a glandulous toothlet on each side. *Calyx* closed, with two leaflets gibbous at the base. *Seeds* flat.

C. CHEIRI.—SPECIFIC CHAR: *Leaves* lanceolate, acute, smooth, subserrate. *Stem* shrubby.

Place.—France.

Quality.—Fragrant, juice yellow.

Power.—Nervous, anodyne, narcotic, expelling, uterine.

Use.—The flowers, in pain, and apoplexy.

353. **BRASSICA.** (Cabbage.) *Nat:* *Order,* siliquosæ. — ESSENTIAL CHAR: *Calyx* erect, converging. *Seeds* globular. A gland between the shorter *stamens* and the *pistil*, and between the longer *stamens* and the *calyx*.

B. NAPUS.—SPECIFIC CHAR: *Root* caulescent, fusiform.

Virtues doubtful.

354. BRASSICA. RAPA. (Turnep.)—SPECIFIC CHAR: *Root* caulescent, orbicular, depressed, fleshy.

Place.—Spain.

Quality.—Watery, esculent.

Power.—Diluting, diuretic, aphrodisiac.

Use.—The syrrup, in ophthalmia, asthma, cough, strangury, calculus, colic.

355. BRASSICA. OLERACEA. (Common Cabbage.)
—ESSENTIAL CHAR: *Root* caulescent, columnar, fleshy.

Place.—Spain.

Quality.—Watery.

Power.—Flatulent, alcalescent.

Use.—The seeds of the red cabbage, in scurvy, hoarseness, cephalalgia.

356. BRASSICA. ERUCA. (Garden Rocket.)—
SPECIFIC CHAR: *Leaves* lyrate. *Stem* hirsute. *Siliques* smooth.

Place.—Flanders.

Quality.—Acrid, penetrating.

Power.—Aphrodisiac.

Use.—The seeds, in apoplexy, paralysis of the tongue.

357. SINAPIS. (Wild Mustard.) *Nat: Order*, siliquosæ.—ESSENTIAL CHAR: *Calyx* spreading. *Corolla* claws erect; gland between the shorter *stamens* and *pistil*, and between the longer *stamens* and *calyx*.

S. NIGRA. — SPECIFIC CHAR: *Siliques* smooth, four-cornered, pressed to the *raceme*. Upper *leaves* linear, lanceolate, quite entire, smooth.

Place.—Europe.

Quality.—Acrid.

Power.—Rubefacient, stimulant, diuretic, aphrodisiac, antiscorbutic.

Use.—The seed, in nausea, cachexia, lethargy, cough, calculus, scurvy, tenia.

Mustard seed may be most conveniently given entire or unbruised, and to the quantity of a spoonful or half an oz. for a dose.

358. RAPHANUS. (Garden Radish.) *Nat: Order*, siliquosæ. — ESSENTIAL CHAR: *Calyx* closed. *Silique* torose, subarticulate, cylindrical. *Glands* four; two between each shorter *stamen* and the *pistil*, and two between the longer *stamens* and the *calyx*.

R. SATIVUS. — SPECIFIC CHAR: *Siliques* cylindrical, torose, two-celled.

Place.—Spain.

Quality.—Watery, acrid.

Power.—Diluting, attenuating, cleansing, diuretic, carminative, apt to create eructation.

Use.—The seeds, in convulsive asthma, hoarseness, and difficulty of passing off water.

CLASS XVI.—MONADELPHIA.

Order 3.—DECANDRIA.

359. GERANIUM. (Crane's-bill.) *Nat* : Order, gruinales.—*ESSENTIAL CHAR* : *Calyx* five-leaved. *Corolla* five-petalled, regular. *Nectary* five honeyed glands fastened to the base of the longer filaments. *Fruit* five-grained, beaked. *Beaks* simple, naked, neither spiral nor bearded.

G. MOSCHATUM. — *SPECIFIC CHAR* : *Peduncles* many-flowered. *Flowers* pentandrous.

Place.—South of Europe.

Quality.—Soporific.

Power.—Anodyne, vulnerary, exanthematic.

Use.—The herb, in dysentery, small-pox, carcinoma, pains in the bowels.

360. GERANIUM. ROBERTIANUM. (Herb Robert.)
—*SPECIFIC CHAR* : *Leaves* quinate, and ternate, gashed. *Calyx* ten-angled.

Place.—The rocks of Europe.

Quality.—Salty, goaty.

Power.—Anodyne, expelling, dispersing milk, astringent, vulnerary.

Use.—The herb, in colic, nephritis, hysteria, discharges, carcinoma, wounds, ulcers of the breasts and womb.

Order 5.—POLYANDRIA.

361. *ALTHÆA*. (Marsh Mallow.) *Nat: Order*, columniferæ. — *ESSENTIAL CHAR: Calyx* double, outer nine-cleft. *Arils* many, one-seeded.

A. OFFICINALIS.—*SPECIFIC CHAR: Leaves* simple, downy.

Place.—Germany, France, and England.

Quality.—Insipid, mucilaginous.

Power.—Emollient, blunting, nourishing, lubricating.

Use.—The herb and seeds, in pains, pleurisy, nephritis, difficulty of passing water, calculus, cough, hoarseness, tenesmus.

An infusion or decoction of the plant is the best mode of using it.

362. *ALCEA*. (Hollyhock.) *Nat: Order*, columniferæ. — *ESSENTIAL CHAR: Calyx* double; outer six-cleft. *Arils* many, one-seeded.

A. ROSEA. — *SPECIFIC CHAR: Leaves* sinuate, angular.

Place.—Spain.

Quality.—Mucilaginous.

Power.—Emollient, blunting.

Use.—The flowers and seeds, in angina, inflammation of the fauces.

363. *MALVA*. (Mallow.) *Nat: Order*, columniferæ. — *ESSENTIAL CHAR: Calyx* double; outer three-leaved. *Capsules* many, united in a depressed whorl, one-celled, one-seeded.

M. ROTUNDIFOLIA.—SPECIFIC CHAR: *Stem* prostrate. *Leaves* cordate, orbiculate, five-lobed. Fruiting *peduncle* declining.

Place.—The road-sides of Europe.

Quality.—Mucilaginous,

Power.—Blunting.

Use.—The root, herb, and seeds, in strangury, inflammations, and pains.

This plant has a strong affinity to the *Althæa*, in a medicinal respect; but the roots of the *Malva* are useless, while those of the *Althæa* are of more efficacy than any other part of the plant; accordingly only the leaves and flowers of the *Malva* are used.

364. HIBISCUS. (Hibiscus.) *Nat: Order*, colum-niferæ.—ESSENTIAL CHAR: *Calyx* double; outer many-leaved. *Capsules* five-celled, with many seeds.

H. ABELMOSCHUS.—SPECIFIC CHAR: *Leaves* sub-peltate, cordate, seven-angled, serrate. *Stem* hispid.

Place.—Asia, South America.

Quality.—Fragrant.

Power.—Expelling.

Use.—The seeds, in contagion, petechia, tinea.

CLASS XVII.—DIADELPHIA.

Order 2.—HEXANDRIA.

365. FUMARIA. (Fumitory.) *Nat: Order*, corydales.—**ESSENTIAL CHAR:** *Calyx* two-leaved. *Corolla* ringent. *Filaments* two, membranaceous, with three anthers on each.

F. BULBOSA.—**SPECIFIC CHAR:** *Stem* simple. *Bractes* the length of the flowers.

Use.—The root, in sarcoma.

366. FUMARIA. OFFICINALIS. (Common Fumitory.) — **SPECIFIC CHAR:** *Pericarps* one-seeded, racemed. *Stem* diffuse.

Place.—South of Europe.

Quality.—Bitter, acrid.

Power.—Expelling, emmenagogue.

Use.—The herb and seeds, in scurvy, scabies, and gout.

Order 3.—OCTANDRIA.

367. POLYGALA. (Milk-wort.) *Nat: Order*, lo-mentaceæ.—**ESSENTIAL CHAR:** *Calyx* five-leaved, with two of the leaves shaped like wings, and coloured. *Legume* obcordate, and two-celled.

P. **SENEGA**.—SPECIFIC CHAR: *Flowers* in spikes. *Stem* erect, quite simple. *Leaves* broad, lanceolate.

Place.—Virginia, Pennsylvania, Maryland.

Quality.—Acid, acrid, subaromatic.

Power.—Resolvent, sialagogue, subemetic, purging, diaphoretic, diuretic, expectorant, vulnerary.

Use.—The root, in bites of rabid animals, peripneumony, pleurisy, arthritis, and dropsy; especially croup.

NOTE.—It is called **SENEKA ROOT**, (*Senega Radix*,) and it is a specific in the croup, (*specificum in phlogosi membranacea; hinc officinis nostris dignissima*;) hence it is one of our noblest medicines.

Order 4.—DECANDRIA.

368. **PTEROCARPUS**. (Dragon's Blood.) *Nat*: Order, papilionaceæ. — ESSENTIAL CHAR: *Calyx* five-toothed. *Capsules* sickle-shaped, leafy, varicose. *Seeds* few, solitary.

P. **DRACO**.—SPECIFIC CHAR: *Leaves* pinnate.

Place.—East and West Indies.

Quality.—Resinous, styptic, juice red.

Power.—Astringent, blunting.

Use.—The resinous juice, in diarrhœa, and dysentery.

369. **GENISTA**. (Broom.) *Nat*: Order, papilionaceæ.—ESSENTIAL CHAR: *Calyx* two-lipped, two and three-toothed; banner oblong, reflex, downwards, from the *pistil* and *stamen*.

G. **CANARIENSIS**.—SPECIFIC CHAR: *Leaves* ternate, pubescent on both sides. *Branches* angular.

Place.—The Canary Islands.

Quality.—Resinous, fragrant.

Power.—Diuretic, sudorific.

Use.—The wood, in dropsy.

Half an oz. of the fresh broom-tops, boiled in a pound of water till half is consumed—of this decoction two table spoonsful may be taken every hour till it operates by stool, or till the whole is taken. By repeating this exhibition every day, or every second day, some dropsies have been cured.

370. GENISTA. TINCTORIA. (Common Dyers' Genista.)—SPECIFIC CHAR: *Leaves* lanceolate, smooth. *Branches* streaked, round, upright.

Place.—South of Europe, and England.

Quality.—Aperient.

Power.—Expelling, purging.

Use.—The herb, flowers, and seeds, in dropsy.

371. ONONIS. (Rest-harrow.) *Nat*: Order, papilionaceæ.—ESSENTIAL CHAR: *Calyx* five-parted, with linear segments. *Banner* striated. *Legume* turgid, sessile. *Filaments* connate, without a fissure.

O. ARVENSIS.—SPECIFIC CHAR: *Flowers* axillary, in pairs. *Leaves* ternate, upper ones solitary. *Branches* unarmed, subvillose.

Place.—Europe and England.

Quality.—Nauseous.

Power.—Diuretic, emmenagogue.

Use.—The root and herb, in hydrocele, calculus, jaundice.

372. LUPINUS. (Lupine.) *Nat*: Order, papilionaceæ.—ESSENTIAL CHAR: *Calyx* two-lipped. *Anthers* five oblong, and five roundish. *Legume* coriaceous.

L. ALBUS.—SPECIFIC CHAR: *Calyxes* alternate, without appendices; upper lip entire, lower three-toothed.

Place.—Italy.

Quality.—Dry, bitter, ungrateful.

Power.—Flatulent, anthelminthic.

Use.—The seed, in scabies.

373. PHASEALUS. (Common Kidney-bean.)
Nat: Order, papilionaceæ. — ESSENTIAL CHAR: *Keel* with the *stamens* and *styles* spirally twisted.

P. VULGARIS.—SPECIFIC CHAR: *Stem* twining. *Flowers* racemed, in pairs. *Bractes* smaller than the *calyx*. *Legumes* pendulous.

Place.—East Indies.

Quality.—Dry, farinaceous.

Power.—Nourishing, flatulent, cosmetic.

Use.—The seeds, in nephritis.

374. DOLICHOS. (Dolichos.) *Nat: Order*, papilionaceæ.—ESSENTIAL CHAR: Two parallel, oblong *calyxes* at the base of the standard, compressing the wings underneath.

D. SAJA.—SPECIFIC CHAR: *Stem* flexuous. *Racemes* axillary. *Glumes* erect, pendulous, hispid, containing about two seeds.

Place.—East Indies.

Quality.—Somewhat sweet, dry, farinaceous.

Power.—Culinary.

Use.—The seeds, in decays.

375. PISUM. (Common Pea.) *Nat: Order*, papilionaceæ.—ESSENTIAL CHAR: *Style* triangular, keeled above, pubescent. *Calyx* has the two upper *segments* shorter.

P. SATIVUM.—SPECIFIC CHAR: *Petioles* round.
Stipules rounded at the bottom, and crenate.
Peduncles many-flowered.

Place.—The fields of Europe.

Quality.—Mild, dry, farinaceous.

Power.—The seeds, nourishing, flatulent.

376. VICIA. (Vetch.) *Nat: Order*, papilionaceæ.
 —ESSENTIAL CHAR: *Stigma* transversely
 bearded on the lower side.

V. FABA. (Common Bean.)—SPECIFIC CHAR:
Stem upright. *Petioles* without tendrils.

Place.—Persia, near the Caspian Sea.

Quality.—Dry, farinaceous.

Power.—Nourishing, flatulent, cosmetic.

Use.—The farina of the seeds, in glandular tumours.

377. CICER. (Chick-pea.) *Nat: Order*, papilionaceæ.—ESSENTIAL CHAR: *Calyx* five-parted, length of the *corolla*; the four upper *segments* incumbent on the banner. *Legume* rhomboid, turgid, two-seeded.

C. ARIETINUM.—SPECIFIC CHAR: *Leaflets* serrate.

Place.—Italy, Spain.

Quality.—Dry, farinaceous, somewhat nauseous.

Power.—Nourishing, flatulent, expelling, lithon-
 thriptic.

Use.—The farina of the seeds, in tumours of the glands.

378. GLYCYRRHIZA. (Liquorice.) *Nat: Order*, papilionaceæ. — ESSENTIAL CHAR: *Calyx* two-lipped; upper lip three-parted, lower undivided. *Legume* ovate, compressed.

G. LABRA.—SPECIFIC CHAR: *Legumes* smooth, no stipules; the terminating *leaflets* petioled.

Place.—France, Italy, and Spain.

Qualiy.—Mucilaginous, and most sweet.

Power.—Blunting, expectorant, and anthelminthic.

Use.—The root chewed, or inspissated juice, in asthma, nephritis, strangury, rheumatism, cough.

The root chewed extinguishes thirst: hence the American Indians, when they are on a long journey in the summer season, always carry a large supply of the root with them.

379. INDIGOFERA. (Indigo.) *Nat*: Order, papilionaceæ. — ESSENTIAL CHAR: *Calyx* spreading. Keel of the *corolla* with an awl-shaped spreading spur on each side. *Legume* linear.

I. TINCTORIA.—SPECIFIC CHAR: *Leaves* pinnate, obovate. *Racemes* short. *Stem* suffruticose.

Place.—India.

Quality.—The fæculent juice dyes blue.

Power.—Astringent.

Use.—The indigo, in lochia, and diarrhœa.

380. GALEGA. (Galega.) *Nat*: Order, papilionaceæ. — ESSENTIAL CHAR: *Calyx* with subulate teeth, nearly equal. *Legume* with oblique streaks, between the seeds.

G. OFFICINALIS.—SPECIFIC CHAR: *Legumes* stiff, upright. *Leaflets* lanceolate, streaked, naked.

Place.—Spain, and Italy.

Quality.—Somewhat aromatic.

Power.—Sudorific.

Use.—The herb, in the plague, petechia, bites of animals.

381. ASTRAGALUS. (Milk Vetch.) *Nat: Order,* papilionaceæ.—*ESSENTIAL CHAR: Legume* two-celled, gibbous.

A. TRAGACANTHA.—*SPECIFIC CHAR: Trunk* arborescent. *Petioles* becoming spinescent.

Place.—South of France, Sicily, Olympus.

Quality.—Mucilaginous.

Power.—Lubricating, demulcent, obtunding.

Use.—The gum (called *Tragacanth*), in coughs, hoarseness, nephritis, strangury, colic.

This gum dissolves very imperfectly in water.

382. TRIFOLIUM. (Trefoil.) *Nat: Order,* papilionaceæ.—*ESSENTIAL CHAR: Flowers* in a head. *Legume* scarcely longer than the *calyx*, not opening, deciduous.

T. MELILOTUS. OFFICINALIS.—*SPECIFIC CHAR: Legumes* racemed, naked, two-seeded, wrinkled, acute. *Stem* erect.

Place.—South of Europe.

Quality.—Fragrant, mucilaginous.

Power.—Resolvent, emollient, lubricating.

Use.—The flowers and seeds, in leucorrhœa, and difficulty of passing water.

An oz. of the herb may be infused in a quart of water, and taken to the extent of 2 or 4 oz. at a time.

383. TREFOLIUM. REPENS. (Dutch Clover.)—*SPECIFIC CHAR: Heads* umbelled. *Legumes* four-seeded. *Stem* creeping.

Place.—The meadows of Europe.

Quality.—Sweet-smelling.

Power.—Anodyne.

Use.—The flowers, in arthritis.

384. TRIGONELLA. (Fenugreck.) *Nat: Order,* papilionaceæ. — *ESSENTIAL CHAR: Banner and wings* nearly equal, spreading in form of a three-petalled *corolla*.

T. FÆNUM-GRÆCUM. — *SPECIFIC CHAR: Legumes* sessile, strict, nearly erect, somewhat sickle-shaped, acuminate. *Stem* erect.

Place.—Montpelier.

Quality.—Fragrant, mucilaginous.

Power.—Emollient, blunting, lubricating.

Use.—The seeds, in dysentery, and diarrhœa.

The seeds are never given internally, ther principal use being in cataplasms and fomentations, for softening, maturing and discussing tumours, and in emollient clysters.

CLASS XVIII.—POLYADELPHIA.

Order 1.—PENTANDRIA.

385. THEOBROMA. (Chocolate Nut-tree.) *Nat*: *Order*, columniferæ. — *ESSENTIAL CHAR*: *Calyx* five-leaved. *Petals* five, arched. *Nectaries* five, horned. *Filaments* five, within the calyx of the petals, growing externally to the nectary, having two anthers on each.

T. CACAO.

Place.—The marshes of South America.

Quality —Fatty.

Power.—Nourishing, aphrodisiac.

Use.—The seed roasted, forms a good substitute for tea.

Order 2.—ICOSANDRIA.

386. CITRUS. (Orange.) *Nat*: *Order*, bicornes. — *ESSENTIAL CHAR*: *Calyx* five-cleft. *Petals* five, oblong. *Anthers* twenty. *Filaments* united into various bodies. *Berry* nine-celled.

C. MEDICA.—*SPECIFIC CHAR*: *Petioles* linear.

Place.—Media, Persia.

Quality.—Flowers aromatic, tonic, fragrant; pulp acid.

Power.—Refrigerant, diuretic; seeds anthelminthic.

Use.—The fruit, in calculus.

387. CITRUS. AURANTIUM. — SPECIFIC CHAR:

Petioles winged. *Leaves* acuminate.*Place*.—East Indies.*Quality*.—Flowers fragrant, distilled with water, used as a cosmetic.*Power*.—Tonic, anthelminthic.*Use*.—The fruit, in hysteria, difficulty of passing water, scurvy, hæmorrhagies of the uterus.

Order 3.—POLYANDRIA.

388. MELALEUCA. (Melaleuca.) *Nat*: Order, myrti. — ESSENTIAL CHAR: *Calyx* five-cleft, half superior. *Petals* five. *Filaments* many, very long, in five bodies. *Style* none. *Capsules* three-celled.M. LEUCADENDRON.—SPECIFIC CHAR: *Leaves* alternate, lanceolate, acuminate, obliquely sickled, five-nerved. *Branches* and *petioles* smooth.*Place*.—East Indies.*Quality*.—Most fragrant.*Power*.—Expelling, carminative, antispasmodic, emmenagogue.*Use*.—The oil, in the flatulent colic, difficult menstruation, paralysis, varix ani, for tooth-ache, rheumatism, as a local application.Dose of the *Caju Puti* oil—from two to six and even twelve drops.389. HYPERICUM. (St. John's Wort.) *Nat*: Order, rotaceæ.—ESSENTIAL CHAR: *Calyx* five-parted. *Petals* five. *Filaments* many, connected at the base, in five bundles.H. PERFORATUM.—SPECIFIC CHAR: *Stem* ancipital. *Leaves* blunt, with pellucid dots.

Place.—The fields of Europe.

Quality.—Balsamic, strong-smelling.

Power.—Vulnerary, resolvent, anthelminthic.

Use.—The herb, flowers, and seeds, in hæmoptysis, hypochondriasis, and phthisis.

It is named St. John's Wort from the tincture of the flowers curing melancholy madness; hence its ancient name, *Fuga Dæmonum*.

CLASS XIX.—SYNGENESIA.

Order 1.—POLYGAMIA ÆQUALIS.

390. TRAGOPOGON. (Goat's Beard.) *Nat:*
Order, compositæ, semiflosculosæ.—ESSEN-
TIAL CHAR: *Calyx* simple. *Down* feathered.
Receptacle naked.

T. PRATENSE.—SPECIFIC CHAR: *Calyx* nearly
equal to the rays of the *corolla*. *Leaves* en-
tire, keeled, acuminate, dilated at the base.
Peduncle round.

Place.—The meadows of Europe.

Quality.—Somewhat bitter.

Power.—Nourishing.

Use.—The root, in cough, and strangury.

391. SCORZONERA. (Viper's-grass.) *Nat:*
Order, compositæ, semiflosculosæ.—ESSEN-
TIAL CHAR: *Calyx* imbricate, with scales
scariose at the edge. *Pappus* feathered,
sessile. *Receptacle* naked.

S. HUMILIS. — SPECIFIC CHAR: *Stem* almost
naked, one-flowered. *Leaves* broad, lanceo-
late, nerved, flat.

Place.—The meadows of Europe.

Quality.—Somewhat bitter.

Power.—Alexipharmic.

Use.—The root and seeds, in bites, and poison.

392. **LACTUCA.** (Lettuce.) *Nat: Order*, compositæ, semiflosculosæ. — **ESSENTIAL CHAR:** *Calyx* imbricate, cylindrical, with a membranaceous margin. *Receptacle* naked. *Seeds* even, with a simple stipitate down.

L. SATIVA.—**SPECIFIC CHAR:** *Leaves* rounded. *Stem-leaves* cordate. *Stem* corymbed.

Place.—Europe.

Quality.—Milky.

Power.—Cooling, diluting, producing milk, pectoric, antivenereal.

Use.—The herb and seeds, in hypochondriasis, and satyriasis.

An extract prepared from the juice of the leaves of the strong-scented Lettuce, gathered when in flower, has been given in dropsies of long standing, proceeding from visceral obstructions, to the extent of half an oz. a day.—*Lactuca Virosa* is poisonous and anodyne, and more bitter, and is used instead of opium, also in dropsies.

393. **LEONTODON.** (Dandelion.) *Nat: Order*, compositæ, semiflosculosæ. — **ESSENTIAL CHAR:** *Calyx* imbricate, with loose scales. *Down* capillary. *Receptacle* naked, dotted.

L. TARAXACUM.—**SPECIFIC CHAR:** Lower *calycine scales* reflex. *Leaves* runcinate, tooth-letted, even.

Place.—The sunny meadows of Europe.

Quality.—Milky.

Power.—Saponaceous, diluting, diuretic.

Use.—The root, in hypochondriasis, and jaundice.

It may be given in the form of an expressed juice, or decoction, or an extract prepared from either of them.

394. **HIERACIUM.** (Hawk-weed.) *Nat: Order*, compositæ, semiflosculosæ. — **ESSENTIAL CHAR:** *Calyx* imbricate, or calyculate, ovate. *Down* simple, sessile. *Receptacle* naked.

H. PILOSELLA.—SPECIFIC CHAR: *Leaves* quite entire, ovate, tomentose underneath. *Stem* throwing out runners.

Place.—The dry fields of Europe.

Quality.—Bitter, milky.

Power.—Astringent, vulnerary.

Use.—The herb, in hernia, diarrhœa, scabies, herpes.

395. CICHORIUM. (Succory.) *Nat: Order*, compositæ, semiflosculosæ.—ESSENTIAL CHAR: *Calyx* calyced. *Pappus* slightly five-toothed, obscurely hairy. *Receptacle* somewhat chaffy.

C. INTYBUS. — SPECIFIC CHAR: *Flowers* twin, sessile. *Leaves* runcinate.

Place.—The margins of fields and roads of Europe.

Quality.—A watery bitter, dyes yellow.

Power.—Aperient, tonic, diuretic.

Use.—The root, herb, flowers, and seeds, in melancholia, hypochondriasis, hectic, hæmorrhage, gout.

The roots and leaves are useful aperients, acting mildly and without irritation, and may be given with safety in hectic and inflammatory cases. The expressed juice of this plant, as well as that of the *Dandelion*, taken in large doses, frequently repeated, has been found an efficacious remedy in phthisis, pulmonalis, as well as in various other affections.

396. CICHORIUM. ENDIVIA. (Common Endive.)
—SPECIFIC CHAR: *Flowers* solitary, peduncled. *Leaves* entire, crenate.

Place.—Europe.

Quality.—Oleraceous.

Power.—Aperient, diuretic.

Use.—The herb and seed, in jaundice.

397. **ARCTIUM.** (Burdock.) *Nat: Order*, compositæ, capitatæ.—**ESSENTIAL CHAR:** *Calyx* globular. The *scales* furnished at the end with inflected hooks.

A. **LAPPA.**—**SPECIFIC CHAR:** *Leaves* cordate, unarmed, petioled.

Place.—The dry grounds of Europe.

Quality.—Sweet, and subaustere.

Power.—Diuretic, cleansing.

Use.—The root, herb, and seeds, in nephritis, gout, œdema, syphilis.

The seeds possess a diuretic quality, and have been given with advantage in the dose of a dr. in calculus, and nephritic complaints, and in the form of an emulsion as a pectoral. The root is generally used in decoction, which may be made by boiling 2 oz. of the fresh root from three pints of water to two; which, when intended as a diuretic, should be taken in the course of two days, or if possible, in twenty-four hours.

398. **CARDUUS.** (Thistle.) *Nat: Order*, compositæ, capitatæ.—**ESSENTIAL CHAR:** *Calyx* ovate, imbricate, with spiny scales. *Receptacle* hairy.

C. **MARIANUS.**—**SPECIFIC CHAR:** *Leaves* stem-clasping, hastate, pinnatifid, spiny. *Calyx* leafless. *Spines* channelled, doubly spined.

Place.—Italy, France, England, on banks.

Quality.—Bitter.

Power.—Sudorific, diuretic.

Use.—The herb and seeds, in pleurisy, leucorrhœa, hydrophobia.

399. **CARLINA.** (Carline Thistle.) *Nat: Order*, compositæ, capitatæ. — **ESSENTIAL CHAR:** *Calyx* radiated, with long, coloured, marginal scales.

C. **ACAULIS.**—**SPECIFIC CHAR:** *Stem* one-flowered, shorter than the flower.

Place.—Italy, Germany, on mountains.

Quality.—Strong-smelling, acrid, bitter, aromatic.

Power.—Expelling, sudorific, stomachic.

Use.—The root, in hypochondriasis, hysteria, scabies.

The preparation, when used, is a decoction of the root.

400. **CARTHAMUS.** (Carthamus.) *Nat. Order*, compositæ, capitatæ. — **ESSENTIAL CHAR:** *Calyx* ovate, imbricate, with scales, which, at the end, are subovate, foliaceous.

C. TINCTORIUS.—**SPECIFIC CHAR:** *Leaves* ovate, entire, serrate, aculeate.

Place.—Egypt.

Quality —Nauseous ; a yellow juice.

Power.—Purging, diuretic.

Use.—The flowers and seeds, in old coughs, asthma, dropsy, jaundice

401. **EUPATORIUM.** (Hemp-agrimony.) *Nat. Order*, compositæ, discoideæ. — **ESSENTIAL CHAR:** *Calyx* imbricate, oblong. *Style* cloven half way, long. *Down* plumose. *Receptacle* naked.

E. CANNABINUM.—**SPECIFIC CHAR:** *Leaves* digitate.

Place.—Europe, on the banks of rivers.

Qualiy.—Very bitter.

Power.—Corroborant, vulnérary ; root purging, emetic, diuretic.

Use.—The herb and root, in cachexia, dropsy, œdema, hydrocele.

A decoction is made of the root, and the dose may be given from 2 to 4 oz. once a day.

402. **SANCTOLINA.** (Lavender - cotton.) *Nat*: *Order*, compositæ, discoideæ.—**ESSENTIAL CHAR**: *Calyx* four-toothed. *Corolla* four-petalled, with the petals growing on the calyx, besides four glands. *Berry* inferior, one-seeded.

S. CHAMÆCYPARISSUS.—**SPECIFIC CHAR**: *Peduncles* one-flowered. *Leaves* toothed, four ways.

Place.—South of Europe.

Quality.—Bitter.

Power.—Balsamic, tonic, expelling, diaphoretic, carminative, anthelminthic.

Use.—The herb, in leucorrhœa, pleurisy.

This plant was thought, at one time, to possess considerable anthelminthic powers, but it has now fallen into disuse.

Order 2.—POLYGAMIA SUPERFLUA.

403. **TANACETUM.** (Tansy.) *Nat*: *Order*, compositæ, discoideæ.—**ESSENTIAL CHAR**: *Calyx* imbricate, hemispherical. *Corolla* rays obsolete, trifid; (sometimes none, and sometimes all the florets bisexual.) *Down* submarginate. *Receptacle* naked.

T. VULGARE.—**SPECIFIC CHAR**: *Leaves* bipinnatifid, gashed, serrate, naked.

Place.—Borders of meadows of Europe.

Quality.—Bitter; dyes yellow.

Power.—Carminative, expelling, sudorific, emmenagogue, anthelminthic, antiputrescent, balsamic, tonic, stomachic.

Use.—The flowers, seeds, and herb, in tertians, hysterics, dropsy, the lumbrici.

Tansy is a moderately warm bitter, and is much esteemed in hysteric disorders, particularly those proceeding from a deficiency or suppression of the uterine purgations. The leaves and seeds have been useful in worms; and an infusion, drank as tea, has been strongly recommended as a preventative of the return of the gout.

404. **TANACETUM. BALSAMITA.** (Costmary.)
—SPECIFIC CHAR: *Leaves* ovate, entire, serrate.

Place.—France.

Quality.—Bitter.

Power.—Stomachic, expelling, emmenagogue.

Use.—The herb, in hysteria, melancholy.

405. **ARTEMISIA.** (Southern-Wood.) *Nat: Order,* corymbiferæ.—ESSENTIAL CHAR: *Receptacle* subvillose, or almost naked. *Down* none. *Calyx* imbricate, with round, converging scales. *Corolla* of the ray none.

- A. **ABROTANUM.**—SPECIFIC CHAR: *Leaves* setaceous, pinnatifid. *Stem* decumbent, shrubby underneath.

Place.—Persia, Arabia, Africa.

Quality.—Bitter.

Power.—Balsamic, tonic, stomachic, anthelmintic.

Use.—The seeds, in the lumbrici, and weakness.

Southern-wood has been found useful as an anthelmintic, and is also used as a stimulant, detergent, and sudorific. Externally, it has been employed in discutient, and antiseptic fomentations; and under the form of a lotion, and an ointment, for cutaneous eruptions; and for preventing the hair from falling off.

406. **ARTEMISIA. PONTICA.** (Roman Wormwood.) — SPECIFIC CHAR: *Leaves* many-parted, tomentose beneath. *Flowers* roundish, nodding. *Receptacle* naked.

Place.—Thrace, Mysia.

Quality.—Bitter.

Power.—As the former.

Use.—The same, but weaker.

407. ARTEMISIA. ABSINTHIUM. (Common Wormwood.)—SPECIFIC CHAR: *Leaves* compound, multifid. *Flowers* subglobose, pendulous. *Receptacle* villose.

Place.—Road-sides of Europe.

Quality.—Most bitter.

Power.—Balsamic, antacid, antiputrescent, anthelmintic, stomachic, antivenereal, antiophthalmic, expelling.

Use.—The herb, in dropsy, jaundice, calculus, hernia, tinea, gangrene, worms.

This plant undoubtedly possesses great medicinal powers, especially the essential oil, as an antispasmodic and anthelmintic; the last property seems peculiar to a great number of this class of plants.—A decoction of wormwood will be found serviceable in stomach complaints, and of great use to hypochondriacs. The herb is used in antiseptic fomentations; and, macerated in water, is applied to bruises to prevent the swelling and discolouration.

408. ARTEMISIA. VULGARIS. (Mug-wort.)—SPECIFIC CHAR: *Leaves* pinnatifid, flat, gashed, tomentose underneath. *Racemes* simple, recurved. *Ray* five-flowered.

Place.—The cultivated lands of Europe.

Quality.—Bitter.

Power.—Corroborant, analeptic, uterine, expelling, emmenagogue.

Use.—The herb, in tertians; the ashes in epilepsy; the moxa in gout.

409. GNAPHALIUM. (Tree-everlasting.) *Nat:* Order, compositæ, discoideæ. — ESSENTIAL CHAR: *Calyx* imbricate, with the marginal scales rounded, scariose, coloured. *Down* feathered, or simple. *Receptacle* naked.

G. ARENARIUM.—SPECIFIC CHAR: *Leaves* lanceolate; the lower ones obtuse. *Corymb* compound. *Stalk* branched at bottom.

Place.—South of Europe.

Quality.—Dry.

Power.—Drying.

Use.—The flowers, in arthritic complaints.

410. GNAPHALIUM. DIOICUM. (Cat's - feet.)
—SPECIFIC CHAR: *Runners* procumbent. *Stalk* quite simple. *Corymb* simple. *Flowers* divided.

Place.—The dry fields of Europe.

Quality —Dry.

Power.—Drying, astringent, strengthening.

Use.—The flowers, in arthritis, convulsive cough, diarrhœa.

411. TUSSILAGO. (Colt's - foot.) *Nat: Order*, compositæ, discoideæ. — ESSENTIAL CHAR: *Calyx-scales* equal, as long as the disk, somewhat membranaceous. *Down* simple. *Receptacle* naked.

T. FARFARA. — SPECIFIC CHAR: *Scape* one-flowered, scaly. *Leaves* cordate, angular, toothletted.

Place.—The clayey parts of Europe.

Qualiy.—Bitter.

Power.—Thoracic.

Use.—The flowers, as a syrrop and conserve, in cough, asthma, phthisis.

Although Colt's-foot is recommended in coughs, phthisis, and other disorders of the breast and lungs, yet I am inclined to think, that the milk in which it is taken is of as much service as the Tussilago itself.

412. TUSSILAGO. PETASITES. (Common Butterbur.)—SPECIFIC CHAR: *Thyrse* ovate; almost all the florets bisexual, syngenesious.

Place.—Germany, Belgium, England.

Quality.—Bitter.

Power.—Sudorific, against pestilence.

Use.—The root and flowers, in the plague.

413. SOLIDAGO. (Golden-rod.) *Nat: Order*, compositæ, discoideæ. — ESSENTIAL CHAR: *Calyx-scales* imbricate, closed. *Corollets* of the ray about five. *Seed* down, simple. *Receptacle* naked.

S. VIRGA. — SPECIFIC CHAR: *Stem* somewhat flexuous, pubescent, angular. *Racemes* panicled, erect, clustered. *Ligules* elongated. *Leaves* serrate, somewhat hairy.

Place.—The woody fields of Europe.

Quality.—Balsamic.

Power.—Vulnerary, diuretic.

Use.—The herb, in calculus, and wounds.

The leaves have a moderately astringent bitter taste, and thence prove serviceable in debility, and laxity of the viscera, and disorders proceeding from that cause.

414. INULA. (Inula.) *Nat: Order*, compositæ, discoideæ. — ESSENTIAL CHAR: *Receptacle* naked. *Down* simple. *Anthers* ending in two bristles at the base.

I. HELENIUM.—SPECIFIC CHAR: *Leaves* stem-clasping, ovate, wrinkled, tomentose underneath. Scales of the *calyx* ovate.

Place.—South of Europe.

Quality.—Aromatic, mucilaginous.

Power.—Expelling, expectorant, stomachic, anthelminthic.

Use.—The root, preserved in sugar, in cough, humid asthma, hypochondriasis, colic, scabies.

This is a gently stimulating medicine, nearly similar in its action to Angelica. The best preparation is an infusion, as the essential oil is entirely dissipated in the decoction and extract.

415. *INULA. DYSENTERICA.* (Common Flea-bane.)

—SPECIFIC CHAR: *Leaves* stem-clasping, cordate, oblong. *Stem* villose, pancyed. *Calycine-scales* bristle-shaped.

Place.—Moist parts of Europe.

Quality.—As the former.

Power.—The same.

Use.—The same.

This plant is supposed to be very efficacious in dysentery; hence its name.

416. *ARNICA.* (Arnica.) *Nat: Order,* compositæ, discoideæ. —ESSENTIAL CHAR: *Receptacle* naked. *Down* simple. *Corollules* of the ray have five filaments. without anthers.

A. *MONTANA.*—SPECIFIC CHAR: *Leaves* ovate, entire. *Stem-leaves* twin, opposite.

Place.—South of Europe, the Alps.

Quality.—Nauseous, acrid.

Power.—Vulnerary, narcotic, emetic, cathartic, diuretic.

Use.—The herb, flowers, and root, in epilepsy, paralysis, diarrhœa, and in internal pains, and congestion from bruises.

One or two scruples of the flowers may be infused in half a pound of water, and drank at proper intervals. The flowers should be wrapt up in a piece of linen, as otherwise their down is apt to be diffused in the liquid, and to cause violent irritation of the throat. The root is used in the same manner and circumstances as the flowers, but is more apt to excite vomiting. In powder its dose is from 5 to 10 gr.

417. DORONICUM. (Leopard's-bane.) *Nat: Order*, compositæ, discoideæ. — *ESSENTIAL CHAR: Calyx-scales* in two rows, equal, longer than the disk. *Seeds* of the ray naked, and destitute of down. *Down* to those of the disk simple. *Receptacle* naked.

D. PARDALIANCHES. — *SPECIFIC CHAR: Leaves* cordate, obtuse, toothletted; those next the root petioled, on the stem embracing.

Place. — The Alps, Geneva.

Quality. — Aromatic, sweet, sapid.

Power. — Somewhat poisonous.

Use. — The root, in colic, and vertigo.

418. CHRYSANTHEMUM. (Chrysanthemum,) *Nat: Order*, compositæ, discoideæ. — *ESSENTIAL CHAR: Calyx* hemispherical, imbricated. *Marginal scales* membranaceous. *Pappus* margined. *Receptacle* naked.

C. LEUCANTHEMUM. — *SPECIFIC CHAR: Leaves* stem-clasping, oblong; the upper serrate, the lower toothed.

Place. — The fields of Europe.

Quality. — Subacrid, penetrating.

Power. — Diuretic, vulnerary.

Use. — The herb, as the common daisy, in phthisis, asthma, tinea.

419. MATRICARIA. (Feverfew.) *Nat: Order*, compositæ, discoideæ. — *ESSENTIAL CHAR: Calyx* hemispherical, imbricate; the marginal *scales* solid, sharpish. *Down* none. *Receptacle* naked.

M. PARTHENIUM. — *SPECIFIC CHAR: Leaves* compound, flat. *Leaflets* ovate, gashed. *Peduncles* branched.

Place.—The road-sides in the South of Europe.

Quality.—Bitter.

Power.—Anodyne, tonic, stomachic, emmenagogue, driving away milk.

Use.—The herb, in the iliac passion, colic, hemi-crania, hysterics.

420. **MATRICARIA. CHAMOMILLA.** (Corn Feverfew.)—**SPECIFIC CHAR:** *Receptacles* conical, *Rays* spreading. *Calycine-scales* equal at the edge.

Place.—The road-sides of the fields of Europe.

Quality.—Bitter, odorous.

Power.—Emollient.

Use.—The flowers, in the tertian, colic, vomitings of pregnant women, calculus.

These plants may be used as substitutes for chamomile; half an oz. of the flowers may be infused in a pint of water.

421. **ANTHEMIS.** (Chamomile.) *Nat: Order,* compositæ, discoideæ. — **ESSENTIAL CHAR:** *Receptacle* chaffy. *Down* none. *Calyxes* hemispherical, nearly equal. *Floscules* of the ray more than five.

A. NOBILIS.—**SPECIFIC CHAR:** *Leaves* pinnate, compound, linear, acute, subvillose.

Place.—The sunny meadows of Europe.

Quality.—Bitter, sweet-smelling.

Power.—Balsamic, antispasmodic, emmenagogue, carminative.

Use.—The flowers, in nephritis, tertians, colic, hysteria, calculus.

The best mode of exhibiting chamomile is in infusion in the form of tea; to be drunk cold as a stomachic.

422. **ANTHEMIS. COTULA.** (May-weed.)—SPECIFIC CHAR: *Receptacles* conic, chaffy, bristly. *Seeds* naked. *Leaves* smooth.

Place.—Fields and roads of Europe.

Quality.—Fœtid, bitter.

Power.—Anodyne, expelling.

Use.—The herb and flowers, in hysteria, epilepsy, dropsy, scrophula, asthma.

423. **ANTHEMIS. PYRETHRUM.** (Spanish Chamomile.)—SPECIFIC CHAR: *Stems* simple, one-flowered, decumbent. *Leaves* pinnate, multifid, with a corn-coloured or yellow ray.

Place.—Tunis.

Quality.—Acrid, most penetrating.

Power.—Cutting, errhine, sialagogue.

Use.—The root, called Pellitory, in tooth-ache, paralysis of the tongue, pain of the chest.

The principal use of this plant is to promote the salival flux, as a masticatory; by this means it often relieves the tooth-ache, some kinds of pain in the head, and lethargic complaints; a vinous infusion is also useful in debility of the tongue.

424. **ACHILLEA.** (Milfoil.) *Nat: Order*, compositæ, discoideæ.—ESSENTIAL CHAR: *Calyx* ovate, imbricate. *Florets* of the *ray* about four. *Down* none. *Receptacle* chaffy.

A. **AGERATUM.**—SPECIFIC CHAR: *Leaves* lanceolate, obtuse, sharply serrate.

Place.—France.

Quality.—Bitter, sweet-smelling, aromatic.

Power.—Anodyne.

Use.—The herb, in ulcers of the kidneys.

425. **ACHILLEA. PTARMICA.** (Sneeze-wort Milfoil.)—SPECIFIC CHAR: *Leaves* lanceolate, acuminate, finely serrate.

Place.—South of Europe.

Quality.—Acrid, inodorous.

Power.—Sialagogue, errhine, sternutatory, vulnerary.

Use.—The root, herb, and flowers, in the toothache.

426. **ACHILLEA. MILLEFOLIUM.** (Yarrow.)—
SPECIFIC CHAR: *Leaves* bipinnate, naked; divisions linear, toothed. *Stem* furrowed towards the top.

Place.—The meadows of Europe.

Quality.—Somewhat bitter.

Power.—Narcotic, inebriating, tonic, stopping evacuations, vulnerary.

Use.—The herb, in hypochondriasis, hæmorrhoids, spitting of blood, wounds,

Order 3.—POLYGAMIA FRUSTRANEA.

427. **CENTAUREA.** (Centaury.) *Nat: Order,* compositæ.—ESSENTIAL CHAR: *Receptacles* bristly. *Down* simple. *Corolla* of the ray funnel-form, longer, irregular.

C. **CYANUS.**—SPECIFIC CHAR: *Calyx* serrate. *Leaves* linear, quite entire; the lowest toothed.

Place.—Fields of Europe.

Quality.—Flowers dye blue.

Use.—More in the arts, as a dye.

428. **CENTAUREA. BEHEN.**—SPECIFIC CHAR: *Calyxes* scariose, radical. *Leaves* lyrate. *Lobes* opposite. *Stem-leaves* embracing.

Place.—Libanus.

Quality.—Odorous, acrid.

Power.—Corroborant, cordial.

Use.—The root, in tremor.

429. CENTAUREA. BENEDICTA. (Blessed Thistle.)

—SPECIFIC CHAR: *Calyxes* double, spiny, woolly, involucred. *Leaves* semidecurrent, toothletted, spiny.

Place.—Lemnos, Chio, England.

Quality.—Most bitter.

Power.—Balsamic, antacid, tonic, expelling, purging, sudorific, diuretic, subemetic.

Use.—The flowers, seeds, and herb, in arthritis, vertigo, cachexia, hemicrania, tertian, pleurisy, plague.

This plant is a fine bitter when freed from the offensive parts of the herb. Excellent effects have been experienced from an infusion in loss of appetite, where the stomach was injured by irregularities. A strong infusion is found to be powerfully sudorific.

430. CENTAUREA. CALCITRAPA. (Star Thistle.)

—SPECIFIC CHAR: *Calyxes* subdouble, spiny, sessile. *Leaves* pinnatifid, linear, toothed. *Stem* hairy.

Place.—Germany, England, by the road-sides,

Quality.—Bitter.

Power.—Balsamic, tonic.

Use.—The root, in intermittent fevers.

Order 4.—POLYGAMIA NECESSARIA.

431. CALENDULA. (Marigold.) *Nat*: Order, compositæ, discoideæ.—ESSENTIAL CHAR: *Receptacles* naked, flat. *Down* none. *Calyx* many-leaved. nearly equal. *Seeds* of the disk membranaceous.

P. OFFICINALIS. — SPECIFIC CHAR: *Seeds* all boat-form, muricated, bent in.

Place.—The fields of the South of Europe.

Quality.—Bitter, somewhat narcotic.

Power.—Expelling, emmenagogue, sudorific, exanthematic.

Use.—The herb, flowers, and seeds, in ophthalmia, vertigo, eruptive fevers.

Order 6.—MONOGAMIA.

432. LOBELIA. (Lobelia.) *Nat: Order*, *compnaceæ*.—ESSENTIAL CHAR: *Calyx* five-cleft. *Corolla* one-petalled, irregular. *Capsules* inferior, two or three-celled.

L. SYPHILITICA. — SPECIFIC CHAR: *Stem* upright. *Leaves* ovate, lanceolate, subserrate. Sinuses of the *calyx* reflex.

Place.—The dry woods of Virginia.

Quality.—Milky, acrid, nauseous.

Power.—Expelling, purging emetic.

Use.—The root, in syphilis.

An infusion of the herb is deservedly extolled in the cure of syphilis; but it requires some caution in its use, as it is apt to produce vertigo.

433. VIOLA. (Violet.) *Nat: Order*, *compnaceæ*.—ESSENTIAL CHAR: *Calyx* five-leaved. *Corolla* five-petalled, irregular, horned at the back. *Anthers* cohering. *Capsules* superior, one-celled, one valved,

V. ODORATA. — SPECIFIC CHAR: Stemless. *Runners* creeping. *Leaves* cordate. *Petioles* smoothish. *Calyxes* obtuse. *Bractes* above the middle of the *peduncles*.

Place.—South of Europe.

Quality.—Fragrant.

Power.—Flowers anodyne; herb emollient; root purging, and emetic; seeds diuretic; syrup cooling.

Use.—The seeds, in calculus; syrrop, in hoarseness, cough, eruptions.

There is a syrup made from the infusion, which is said to be an agreeable laxative for children; it is likewise valued as a test for detecting acids, or alkalies, the former changing its blue to a red, and the latter to a green.

434 VIOLA. (Ipecacuanha.) — SPECIFIC CHAR:
Leaves oval, hairy on the edge and beneath.

Place.—The moist woods of America.

Quality.—Lightly pungent.

Power.—Emetic, tonic, purging, sudorific.

Use.—The root, in fevers, diarrhœa, dysentery, leucorrhœa, hæmorrhagies of the uterus, spitting of blood.

A scruple, or half a dr. will produce vomiting in an adult, which should be assisted by drinking copiously of warm watery fluids; on the contrary, when vomiting is not intended, liquids ought to be avoided, and the dose diminished to a gr. or less.

CLASS XX.—GYNANDRIA.

Order 1.—DIANDRIA.

435. ORCHIS. (Orchis.) *Nat: Order, orchideæ.*
—ESSENTIAL CHAR: *Nectary*, a horn or spur behind the flower.

O. BIFOLIA.—SPECIFIC CHAR: *Bulbs* undivided.
Lip of the nectary lanceolate, quite entire.
Horn very long. *Petals* spreading.

Place.—The hard fields of Europe.

Quality.—Goaty, mucilaginous.

Power.—Narcotic, exhilarating, anodyne, obtunding, analeptic, promoting venery.

Use.—The root, in sterility, tabes, and dysentery.

436. ORCHIS. MORIO. (Female, or Meadow Orchis.)—SPECIFIC CHAR: *Bulbs* undivided. Lip of the *nectary* quadrifid, crenulate. *Horn* blunt, ascending. *Petals* blunt, converging.

Place.—Europe, woods of the East.

Quality.—Goaty, mucilaginous.

Power.—Lubricating, nourishing, venereal.

Use.—The root, in dysentery, ulcers of the bladder.

These plants contain a considerable quantity of nutriment, for which they are more esteemed than for their small medicinal properties.

437. EPIDENDRON. (Vanelloe.) *Nat: Order, orchideæ.*—*ESSENTIAL CHAR: Nectary turbinate, oblique, reflex. Corolla spreading. Spur none.*

E. VANILLA.—*SPECIFIC CHAR: Leaves ovate, oblong, nerved, sessile. Cauline - tendrils spiral.*

Place.—Both Indies.

Quality.—Heating, corroborant, cephalic, diuretic.

Use.—The siliqua, in melancholy.

Dose : half a dr.

Order 5.—HEXANDRIA.

438. ARISTOLOCHIA. (Birth-wort.) *Nat: Order, sarmentaceæ.*—*ESSENTIAL CHAR: Stigmas six. Calyx none. Corolla monopetalous, tongue-shaped, entire. Capsules six-celled, inferior.*

A. SERPENTARIA.—*SPECIFIC CHAR: Leaves cordate, oblong, flat. Stems weak, flexuous, round. Flowers solitary.*

Place.—Virginia, Carolina.

Quality.—Acrid, with the goatly smell of Valerian.

Power.—Expelling, diuretic, diaphoretic, anthelmintic, alexipharmic.

Use.—The root, in intermittents, eruptions, venomous bites.

Dose : from 10 gr. to a dr. of the powder. The infusion is made with an oz. of the bruised root to a pint of boiling water. The dose is from 2 to 3 oz. every three or four hours.—Dr. Thornton, an eminent physician and botanist, and lecturer on botany in London, has discovered that the powder, given in the dose of a dr. every three hours, stops *mortification*.

439. *ARISTOLOCHIA. ROTUNDA.* (Round-rooted Birth-wort.)—SPECIFIC CHAR: *Leaves* cordate, subsessile, obtuse. *Stem* weak. *Flowers* solitary.

Place.—Italy, Spain, South of France.

Quality.—Fœtid, aromatic, bitter, acrid.

Power.—Heating, expelling, diuretic, abortive, vulnerary.

Use.—The root, in chlorosis, cachexia, gout, scabies, fistula.

440. *ARISTOLOCHIA. LONGA.* (Long-rooted Birthwort.)—SPECIFIC CHAR: *Leaves* cordate, petioled, obtuse. *Stem* weak. *Flowers* solitary. *Fruit* ovate.

Place.—South of Europe.

Quality.—As the last.

Use.—As the former.

441. *ARISTOLOCHIA. CLEMATITIS.* (Common Birthwort.)—SPECIFIC CHAR: *Leaves* cordate. *Stem* erect. *Flowers* axillary, crowded.

Place.—South of France.

Quality.—Strong smelling, bitter, acrid.

Power.—Expelling, producing nausea.

Use.—The root, in gout, cachexia.

Order 6.—OCTANDRIA.

442. *CYTINUS.* (Hypocistis.) *Nat : Order, aristolochiæ.*—ESSENTIAL CHAR: *Style* none. *Calyx* four-cleft, superior. *Corolla* none. *Anthers* sixteen, sessile. *Berry* eight-celled, with many seeds.

Place.—Spain, Portugal, Africa.

Quality.—Acid, styptic.

Power.—Astringent.

Use.—The juice of the plant, in discharges.

Order 8.—POLYANDRIA.

443. ARUM. (Arum.) *Nat: Order, piperitæ.*—
ESSENTIAL CHAR: *Spathe* one-leafed, cowlled.
Spadix naked above; female, below. *Stamens*
ions in the middle.

A. MACULATUM.—SPECIFIC CHAR: *Leaves* hastate, quite entire. *Spadix* club-shaped.

Place.—Germany, Italy.

Quality.—Acrid, septic.

Power.—Heating, soapy, expectorating, cosmetic.

Use.—The root, in tertians, humoral asthma, chlorosis, phthisis, contusions.

The dose is 10 or 15 gr. three times a day, in the form of a conserve or bolus.

CLASS XXI.—MONŒCIA.

Order 1.—MONANDRIA.

444. CYNAMORIUM. (Cynamorium.) *Nat*: Order, amentaceæ. — *ESSENTIAL CHAR*: Male: *Calyx* an imbricate ament. *Corolla* none. Female: *Calyx* in the same ament. *Corolla* none. *Style* one. *Seed* one, roundish.

C. COCCINEUM.—*SPECIFIC CHAR*: *Slips* scaly. *Ament* cylindrical. *Scales* imbricate, ovate, retuse.

Place.—Sicily, Africa, Jamaica.

Quality.—Styptic.

Power.—Astringent.

Use.—The herb, in dysentery, hæmorrhage from the womb.

Order 3.—TRIANDRIA.

445. PHYLLANTHUS. (Phyllanthus.) *Nat*: Order, tricoccæ. — *ESSENTIAL CHAR*: Male: *Calyx* six-parted, bell-shaped. *Corolla* none. Female: *Calyx* six-parted. *Corolla* none. *Styles* three-bifid. *Capsules* three-celled. *Seeds* solitary.

P. EMBLICA.—*SPECIFIC CHAR*: *Leaves* pinnate, floriferous. *Stem* arboreous. *Fruit* berried.

Place.—Malabar, Ceylon.

Quality.—Somewhat acid, austere, subacid.

Power.—Astringent.

Use.—The fruit, in dysentery.

Order 4.—TETRANDRIA.

446. BETULA. (Birch Tree.) *Nat: Order*, amenantaceæ. — **ESSENTIAL CHAR:** Male: *Calyx* one-leaved, three-cleft, three-flowered. *Corolla* four-parted. Female: *Calyx* one-leaved, subtrifid, two-flowered. *Seed* with a winged membrane on each side.

B. ALBA.—**SPECIFIC CHAR:** *Leaves* ovate, acuminate, serrate.

Place.—Woods of Europe.

Quality.—Sweetish.

Power.—Diaphoretic.

Use.—The bark, in erysipelas.

447. BUXUS. (Box.) *Nat: Order*, tricoccæ. — **ESSENTIAL CHAR:** Male: *Calyx* three-leaved, *Petals* two. The rudiments of a germ. Female: *Calyx* four-leaved. *Petals* three. *Styles* three. *Capsules* three-beaked, three-celled. *Seeds* two.

B. SEMPERVIRENS.

Place.—France.

Quality —Bitter.

Use.—The wood, in epilepsy, hysterics.

Dose: 20 drops of the oil.

448. URTICA. (Nettle.) *Nat: Order*, scabridæ. — **ESSENTIAL CHAR:** Male: *Calyx* four-leaved. *Corolla* none. *Nectary* (rudiment of a germ) central, cup-shaped. Female: *Calyx* two-leaved. *Corolla* none. *Seed* one, superior, shining.

U. PILULIFERA. — SPECIFIC CHAR: *Leaves* opposite, ovate, serrate: female flowers in round balls as heads.

Place.—England, France, &c.

Quality.—Burning to the touch.

Power.—Diuretic.

Use.—The seeds, in nephritic complaints.

A celebrated remedy among the 'poor in various cutaneous diseases.

449. URTICA. DIOICA. (Great Nettle.)—SPECIFIC CHAR: *Leaves* opposite, cordate. *Racemes* very much branching in pairs, mostly dioicous.

Place.—The road-sides of Europe.

Quality.—Burning to the touch, tops nourishing.

Use.—The herb and root, in jaundice, nephritic complaints, phthisis, hæmorrhagy, hæmoptysis, piles.

450. MORUS. (Mulberry Tree.) *Nat: Order*, scabridæ.—ESSENTIAL CHAR: Male: *Calyx* four-parted. *Corolla* none. Female: *Calyx* four-leaved. *Corolla* none. *Styles* two. *Calyx* becoming a berry. *Seeds* one.

M. NIGRA.—SPECIFIC CHAR: *Leaves* cordate, rugged.

Place.—China, Italy.

Quality.—Sweet-acid.

Power.—Cooling, strengthening.

Use.—The syrup, in putrid fevers, thirst, sore throat; the bark, in tenia.

The fruit is serviceable in fevers.

Order 5.—PENTANDRIA.

451. XANTHIUM. (Zanthium.) *Nat: Order*, compositæ nucamentaceæ.—*ESSENTIAL CHAR: Male: Calyx* common, imbricate. *Corolla* one-petalled, five-cleft, funnel-form. *Receptacles* chaffy. *Female: Calyx* involucre, two-leaved, two-flowered. *Corolla* none. *Drupe* dry, muricated, two-cleft. *Neucleus* two-celled.

X. STRUMARIUM.—*SPECIFIC CHAR: Stem* unarmed. *Leaves* cordate, three-nerved at the base.

Place.—South of Europe.

Quality.—Bitter, subacrid, a yellow dye.

Power.—Diaphoretic, astringent, expelling.

Use.—The leaves and seeds, in scrophula, herpes, erysipelas.

Dose: Half an oz. of the seeds once a day.

Order 10.—POLYANDRIA.

452. POTERIUM. (Upland Burnet.) *Nat: Order*, miscellanæ.—*ESSENTIAL CHAR: Male: Calyx* four-leaved. *Corolla* four-parted. *Stamens* thirty to forty. *Female: Calyx* four-leaved. *Corolla* wheel-shaped, five-parted. *Pistils* two. *Berry* formed of the hardened tube of the corolla.

P. SANGUISORBA.—*SPECIFIC CHAR: Unarmed*, with the stem somewhat angular.

Place.—South of Europe.

Quality.—Astringent, vulnerary.

Use.—The herb, in hæmoptysis, dysentery.

453. QUERCUS. (Oak Tree.) *Nat: Order*, omentaceæ. — *ESSENTIAL CHAR: Male: Calyx* commonly five-cleft. *Corolla* none. *Stamens* five or ten. *Female: Calyx* one-leafed, quite entire, rugged. *Corolla* none. *Styles* two to five. *Seeds* one, ovate.

Q. SUBER.—*SPECIFIC CHAR: Leaves* evergreen, ovate, oblong, tomentose underneath, waved, bark covers fungose.

Place.—Portugal, Spain.

Quality.—Dry, styptic.

Power.—Astringent.

Use.—The bark, in dysentery, erysipelas.

454. QUERCUS. SUBUR. (Common Oak.)—*SPECIFIC CHAR: Leaves* subsessile. Acorns or fruit. *Stalks* single or two together.

Place.—The Northern Parts of Europe.

Quality.—Dry, styptic.

Power.—Astringent.

Use.—The bark and cups, in diarrhœa, tertians, hæmorrhages.

This is seldom used internally, but forms a valuable injection in gleet and other discharges. An oz. of the bark boiled in 2 pints of water until it is reduced to half the quantity. This is also a useful gargle in chronic enlargement of the tonsils.

455. JUGLANS. (Walnut Tree.) *Nat: Order*, amentaceæ.—*ESSENTIAL CHAR: Male: Calyx* one-leafed, scale-form. *Corolla* six-parted. *Filaments* eighteen. *Female: Calyx* four-cleft, superior. *Corolla* four-parted. *Styles* two. *Drupe* with a grooved nucleus.

J. PEGIA. — *SPECIFIC CHAR: Leaflets* (about nine) oval or oblong, smooth, subserrate, almost equal, the odd one petioled.

Place.—North America, Persia.

Quality.—Strong smelling, bitter.

Power.—Narcotic, expelling, emmenagogue, anthelmintic, paralytic.

Use.—The bark, in scurvy, tænia, sore throat.

456. FAGUS. (Chesnut Tree.) *Nat*: Order, omentaceæ.—*ESSENTIAL CHAR*: Male: *Calyx* five-cleft, bell-shaped. *Corolla* none. *Stamens* twelve. Female: *Calyx* four-toothed. *Corolla* none. *Styles* three. *Capsules*, which was the calyx muricate, four-valved. *Seeds* two.

T. CASTANEA.—*SPECIFIC CHAR*: *Leaves* lanceolate, with acuminate serratures, naked underneath.

Place.—Italy and Southern Parts of Europe.

Quality.—Soapy.

Use.—The bark, in diarrhœa.

457. FAGUS. SYLVATICA. (Common Beech Tree.)
—*SPECIFIC CHAR*: *Leaves* ovate, obscurely serrate.

Place.—Italy, France and Germany.

Quality.—Fruit esculent.

Power.—Flatulent.

Use.—The bark, as an astringent.

458. CORYLUS. (Haselnut Tree.) *Nat*. Order, amentaceæ.—*ESSENTIAL CHAR*: Male: *Calyx* one-leafed, three-cleft, scale-form, one-flowered. *Corolla* none. *Stamens* eight. Female: *Calyx* two-leaved, lacerated. *Corolla* none. *Styles* two. *Nut* ovate.

C. AVELLANA.—*SPECIFIC CHAR*: *Stipules* lanceolate. *Leaves* cordate, roundish obtuse. *Branchlets* hairy.

Place.—The hedges of Europe.

Quality.—Fœtid.

Power.—Anodyne.

Use.—The oil, in tooth-ache.

459. LIQUIDAMBAR. (Sweet Gum.) *Nat*: *Order*, coniferæ. — *ESSENTIAL CHAR*: *Male*: *Calyx* common, four-leaved. *Corolla* none. *Filaments* numerous. *Female*: *Calyx* in a globe, four-leaved. *Corolla* none. *Styles* two. *Capsules* many, in a globe, two-valved, many-seeded.

L. STYRACIFLUA. — *SPECIFIC CHAR*: *Leaves* palmate, lobed, with the sinuses of the base of the veins villose.

Place.—Virginia, Mexico.

Quality.—Resin aromatic, fragrant, balsamic.

Power.—Heating.

Use.—The resin, in scabies.

Order 11.—MONODELPHIA.

460. PINUS. (Pine Tree.) *Nat*: *Order*, coniferæ. — *ESSENTIAL CHAR*: *Male*: *Calyx* four-leaved. *Corolla* none. *Stamens* very many, with naked anthers. *Female*: *Calyx-strobiles* with a two-flowered scale. *Corolla* none. *Pistil* one. *Nut* with a membranaceous wing.

P. SYLVESTRIS.—*SPECIFIC CHAR*: *Leaves* two in a sheath, rigid. *Cones* ovate-conical, the length of the leaves, single or two together, rounded at the base.

Place.—The dry parts of Europe.

Quality.—Resinous.

Power.—Diuretic, cleansing.

Use.—The resin, in scurvy.

The pitch, made into pills with flour, may be taken to a great extent, not only without injury, but with advantage to the general health, and affords one of the most effectual means of controlling the languid circulation, and the inert and arid condition of the skin.

461. *PINUS. PINEA.* (Stone Pine Tree.)—SPECIFIC CHAR: *Leaves* two in a sheath, primordial ones ciliate. *Cones* ovate, blunt, almost unarmed, longer than the leaf. *Nut* hard.

Place.—Italy, France.

Quality.—Mild.

Power.—Nourishing, aphrodisiac.

Use.—The kernel, in the strobile, in strangury.]

462. *PINUS. LARIX.* (Common White Larch Tree.)—SPECIFIC CHAR: *Leaves* fascicled, soft, bluntish. *Bractes* standing, cut beyond the scales of the stobiles.

Place.—The Alps.

Quality.—Resinous.

Power.—Diuretic, gives a violet smell to the urine, vulnerary.

Use.—Venice turpentine, in leucorrhœa, ulcers, phthisis, hæmorrhages.

Dose: 10 drops of the rectified oil.

463. *PINUS. ABIES.* (Norway Spruce Fir Tree.)—SPECIFIC CHAR: *Leaves* solitary, somewhat four-cornered, sharpish; distich branches naked below. *Cones* cylindrical.

Place.—Moist parts of Europe.

Quality.—Resinous.

Power.—Diuretic.

Use.—The resin, in scurvy, arthrites.

464. **CYPRESSUS.** (Cypress.) *Nat: Order*, coniferæ.—**ESSENTIAL CHAR:** Male: *Calyx-scale* an ament. *Corolla* none. *Anthers* four, sessile, without filaments. Female: *Calyx* a strobile. *Scale* one-flowered. *Corolla* none. *Styles* concave dots. *Nut* angular.

C. SEMPERVIRENS. — **SPECIFIC CHAR:** *Leaves* imbricate. *Fronde* quadrangular.

Place.—Crete.

Quality.—Dry.

Power.—Astringent.

Use.—The wood, and strobile, in hernia, and diarrhœa.

It produces a sense of heat, and excites the action of the stomach, and is, therefore, a good and pleasant stomachic. Dose, given in substance, from 15 gr. to 1 dr.

465. **CROTON.** (Croton.) *Nat: Order*, tricocæ.—**ESSENTIAL CHAR:** Male: *Calyx* cylindric, five-toothed. *Corolla* five-petalled. *Stamens* ten to fifteen. Female: *Calyx* many-leaved. *Corolla* none. *Styles* three, bifid. *Capsules* three-celled. *Seed* one.

C. CASCARILLA.

Place.—Peru, Florida, Paraguay.

Quality.—Acrid, bitter, fragrant, with the smell of musk.

Power.—Tonic.

Use.—The bark, in exacerbations of fever, tertians, diarrhœa, in fevers.

466. **CROTON.** (Benzoe.) — **SPECIFIC CHAR:** *Leaves* linear, somewhat spreading, naked. *Veins* red.

Place.—Sumatra, Siam.

Quality.—Resinous, strong-smelling, fragile.

Power.—Nervous, expectorant, balsamic.

Use.—The resin, tincture, and flowers, in gonorrhœa, and discharges.

The preparation is a tincture of the flowers.

467. CROTON. TINCTORIUM. (Officinal Croton.)

—SPECIFIC CHAR: *Leaves* rhomboid, repend.

Capsules pendulous. *Stem* herbaceous.

Place.—The cultivated parts of Narbonne in France.

Quality.—Dyes blue.

Power.—Acid.

Use.—The juice, in gangrene, and carcinoma.

468. CROTON. TIGLIUM. (Purging Croton.)—

SPECIFIC CHAR: *Leaves* ovate, smooth, acuminate. *Stem* arboreous.

Place.—Ceylon.

Quality —Most pungent.

Power.—Emetic, drastic, burning.

Use.—A few drops of the tincture, purging violently; or of the bark, half a grain, in obstinate constipations of the bowels.

The oil is now generally used; the dose is from 1 to 5 drops made into pills with crumb of bread. It often produces vomiting.

469. CROTON. LACCIFERUM. (Lac. Croton.)—

SPECIFIC CHAR: *Leaves* tomentose, serrulated, petioled. *Calyxes* tomentose.

Place.—India.

Quality.—Resinous.

Power.—Substringent, diuretic.

Use.—The gum lac, is used also as a varnish, and to colour the sealing wax red; a stomachic.

470. *JATROPHA*. (Physic Nut.) *Nat: Order*, tri-coccæ. — *ESSENTIAL CHAR*: Male: *Calyx* none. *Corolla* one-petalled, funnel-form. *Stamens* ten, alternately longer and shorter. Female: *Calyx* none. *Corolla* five-petalled, spreading. *Styles* three, bifid. *Capsules* three-celled. *Seed* one.

J. CURCAS. — *SPECIFIC CHAR*: *Leaves* cordate, angular.

Place.—Surinam, Brazil, Jamaica.

Quality.—Acrid, burning.

Power.—Drastic, inflammatory.

Use.—The seeds, in dropsy.

471. *RICINUS*. (Palma Christi.) *Nat: Order*, tri-coccæ. — *ESSENTIAL CHAR*: *Calyx* five-parted. *Corolla* none. Male: *Stamens* numerous. Female: *Styles* three, bifid. *Capsules* three-celled. *Seed* one.

R. COMMUNIS. — *SPECIFIC CHAR*: *Leaves* peltate, subpalmate, serrate. *Fruits* prickly.

Place.—The warm regions of the globe.

Quality.—Acrid, bitter.

Power.—Drastic, inflammatory, anthelmintic.

Use.—The oil, from the seeds, in the iliac passion, the colica pictonum, nephritis, and tania.

Dose, of the seeds, from 1 scruple to 25 gr.

Order 10.—SYNGENESIA.

472. *MOMORDICA*. (Momordica.) *Nat: Order*, cucurbitacæ. — *ESSENTIAL CHAR*: *Calyx* five-cleft. *Corolla* five-parted. Male: *Filaments* three. Female: *Style* trifid. *Pome* opening elastically.

M. ELATERIUM. — *SPECIFIC CHAR*: *Pomes* hispid. *Tendrils* none.

Place.—Italy, Narbonne, and Sicily.

Quality.—Most bitter, and nauseous.

Power.—Emetic, drastic, emmenagogue.

Use.—The pome, in dropsy, asthma, leucorrhœa, loryza.

This fruit is a very violent cathartic, and when incautiously given, it brings on a dangerous hypercatharsis. The juice, which is lodged in the centre of the fruit, directly around the seeds, and which is improperly termed the extract, is always used in preference to the recent fruit. The dose is from half a gr. to 2 gr.

473. CUCURBITA. (Gourd.) *Nat: Order*, cucurbitaceæ. — *ESSENTIAL CHAR: Calyx* five-toothed. *Corolla* five-cleft. *Male: Filaments* three. *Female: Pistilium* five-cleft. *Seeds* of the pome with a swelling margin.

C. LAGINARIA.—*SPECIFIC CHAR: Leaves* somewhat angular, tomentose underneath, biglandular at the base. *Fruits* woody.

Place.—America.

Quality.—Somewhat sweet.

Power.—Cooling.

Use.—The seeds, in putrid fever, strangury, and nephritis.

474. CUCURBITA. CITRULLUS. (Water Melon.) — *SPECIFIC CHAR: Leaves* many-parted.

Place.—Apulia, Calabria, Sicily.

Use.—The seeds, as the former.

475. CUCUMIS. (Cucumber.) *Nat. Order*, cucurbitaceæ. — *ESSENTIAL CHAR: Calyx* five-toothed. *Corolla* five-parted. *Male: Filaments* three. *Female: Pistil* three-cleft. *Pome* with acute seeds.

C. COLOCYNTHIS. — *SPECIFIC CHAR: Leaves* multifid. *Fruits* globular, smooth.

Place.—Syria, Aleppo.

Quality.—Most bitter, nauseous.

Power.—Drastic, emmenagogue, anthelmintic.

Use.—The pulp and seeds, in constipation, and epilepsy.

Colycinth is one of the most powerful and most violent cathartics when given in substance. The extracts are chiefly used, which act briskly and safely on the bowels. The dose of the simple extract is, from 5 gr. to half a dr. The compound extract, or what is commonly called cathartic extract, the dose is from 2 to 3 gr.

476. CUCUMIS. MELO. (Musk Melon.)—SPECIFIC CHAR: Angles of the *leaves* rounded. *Fruits* torulose.

Place.—Malta.

Use.—The decorticated seeds, as cooling.

477. CUCUMIS. SATIVUS. (Common Cucumber.)
—SPECIFIC CHAR: *Leaves* straight, between the angles. *Fruits* oblong, scabrous.

Place.—South of Europe.

Use.—The seeds, cooling.

478. BRYONIA. (Bryony.) *Nat: Order*, caccurbitaceæ.—ESSENTIAL CHAR: *Calyx* five-toothed. *Corolla* five-parted. Male: *Filaments* three. Female: *Style* quadrifid. *Berry* subglobular, many-seeded.

B. ALBA. — SPECIFIC CHAR: *Leaves* palmate, callous, scabrous on both sides. *Flowers* monœcous. *Berries* black.

Place.—The hedge-sides of Europe.

Quality.—Acrid, bitter, nauseous.

Power.—Purging, expelling, anthelmintic, emmenagogue.

Use.—The extract, berry, and seeds, in dropsy, mania, epilepsy; an ointment, from the root, in rheumatism, pleurisy, and asthma.

Dose, of the root, from 10 gr. to a scruple; of the extract, from a scruple to a dr.

CLASS XXII.—DIOECIA.

Order 1.—DIANDRIA.

479. **SALIX.** (Willow.) *Nat: Order*, amentaceæ.
—**ESSENTIAL CHAR:** *Calyx* ament, composed of scales. *Corolla* none. Male: *Nectary* a melliferous gland. Female: *Style* bifid. *Capsules* one-celled, two-valved. *Seeds* downy.

S. ALBA.—**SPECIFIC CHAR:** *Leaves* lanceolate, acuminate, serrate, pubescent, on both sides: the lowest serratures glandular.

Place.—Europe, in moist ground, or water.

Quality.—Bitter.

Power.—Antivenereal.

Use.—The leaves and bark, in dysentery.

This plant has been recommended as a substitute for Peruvian bark. The bark possesses very considerable astringency and bitterness, but contains no tannin. An oz. and a half of the dried bark should be first macerated six hours in two pounds of water, and then made to boil in it for ten or fifteen minutes.—An oz. or 2 of this decoction may be given three or four times a day, or oftener.

Order 4.—TETRANDRIA.

480. **VISCUM.** (Mistletoe.) *Nat: Order*, aggregateæ. — **ESSENTIAL CHAR:** Male: *Calyx* four-parted. *Corolla* none. *Filaments* none. *Anthers* fastened to the calyx. Female: *Calyx* four-leaved, superior. *Corolla* none. *Style* none. *Berry* one-seeded. *Seed* cordate.

V. ALBUM.—SPECIFIC CHAR: *Leaves* lanceolate, obtuse. *Stem* dichotomous. *Spikes* axillary. *Place*.—The gummy and resinous trees of Europe. *Quality*.—Mucilaginous. *Power*.—Blunting, lubricating. *Use*.—The wood, in epilepsy, vertigo, pleurisy, and dysentery.

481. MYRICA. (Candleberry Myrtle.) *Nat*: Order, amentaceæ. — ESSENTIAL CHAR: *Ament* with a crescent-shaped scale. *Corolla* none. Female: *Styles* two. *Berry* one-seeded.

M. GALE.—SPECIFIC CHAR: *Leaves* lanceolate, subserrate. *Stem* suffruticose.

Place.—The Northern marshes of Europe.

Quality.—Bitter, dyes yellow, wax-bearing.

Power.—Narcotic.

Use.—The leaves, in scabies, and vermin.

The green leaves bruised, and made into an ointment, has been of service in scabies and vermin.

Order 5.—PENTANDRIA.

482. PISTACIA. (Pistacia Tree.) *Nat*: Order, amentaceæ.—ESSENTIAL CHAR: Male: an ament. *Calyx* five-cleft. *Corolla* none. Female: distinct. *Calyx* trifid. *Corolla* none. *Styles* two. *Drupe* one seeded.

P. VERA.—SPECIFIC CHAR: *Leaves* unequally pinnate. *Leaflets* subovate, recurved.

Place.—Persia, Arabia, Syria, Italy, and Sicily.

Quality.—Sweet, fattening.

Power.—Nourishing, obtunding,

Use.—The kernels, in hectic fever.

483. **PISTACHIA. TEREBINTHUS.** (Common Turpentine Tree.)—**SPECIFIC CHAR:** *Leaves* unequally pinnate. *Leaflets* ovate, lanceolate.

Place.—India, Africa, Assyria, China, Cyprus, Italy, Spain.

Quality.—A liquid resin, yellow, subdiaphanous, bitter, acrid.

Power.—Resolving, emollient, vulnerary, diuretic, gives the urine the smell of violets.

Use.—The balsam, in phthisis, coughs, ulcers, gonorrhœa.

This differs in nothing from the common turpentine, except its great price,

484. **PISTACHIA. LENTISCUS.** (Mastic Tree.)—**SPECIFIC CHAR:** *Leaves* abruptly pinnate. *Leaflets* lanceolate.

Place.—Italy, Portugal, Sicily, and Chios.

Quality.—Dry, the resin fragile, pale aromatic.

Power.—Corroborant, stomachic, vulnerary.

Use.—The wood and resin, in coughs, catarrhs, tooth-ache, arthritis, calculus.

This plant furnishes the gum mastic, which is considered astringent, and diuretic; but its virtues, if it has any, are very trifling. The Turkish and Armenian women use the resin as a masticatory for cleansing the teeth, and giving an agreeable smell to the breath. It is employed to fill the cavities of carious teeth, for which purpose it is very well adapted.

485. **SPINACIA.** (Spinach.) *Nat: Order,* holraceæ. — **ESSENTIAL CHAR:** Male: *Calyx* five-parted. *Corolla* none. Female: *Calyx* four-cleft. *Corolla* none. *Styles* four. *Seed* one, within the hardened calyx.

S. OLERACEA.—**SPECIFIC CHAR:** *Fruits* sessile.

Place.—Uncertain, cultivated in gardens.

Quality.—Diuretic.

Use.—More as wholesome food, not heating.

486. CANNABIS. (Hemp.) *Nat*: Order, scabridæ.
 —ESSENTIAL CHAR: Male: *Calyx* five-parted.
Corolla none. Female: *Calyx* one-leafed,
 entire, gaping on one side. *Corolla* none.
Styles two. *Nut* bivalve within the closed
 calyx.

C. SATIVA.—SPECIFIC CHAR: *Leaves* digitate.

Place.—Japan, East Indies.

Quality.—Poisonous.

Power.—Narcotic, maddening.

Use.—The seeds, in gonorrhœa, leucorrhœa, jaundice.

Given to birds, upon whom it acts powerfully as regards venery.

487. HUMULUS. (Hops.) *Nat*: Order, scabridæ.
 —ESSENTIAL CHAR: Male: *Calyx* five-leaved.
Corolla none. Female: *Calyx* one-leafed,
 spreading obliquely, entire. *Corolla* none.
Styles two. *Seed* one, within a leafed calyx.

H. LUPULUS.

Place.—The hedges of Europe.

Quality.—Bitter.

Power.—Tonic, narcotic, inebriating, raises fancies in the brain, anodyne.

Use.—The strobiles, in nephritis, phrenitis; the seeds, in constipation.

A pillow, stuffed with hops, is said to have long been a popular remedy for procuring sleep in tooth-ache, and recent experiments have confirmed the same. By simple infusion, the aroma is extracted; by short boiling the bitter, and by long-continued boiling the astringent principle predominates.—The dose of the powder is from 3 gr. to a scruple; of the extract from 10 gr. to half a dr.; of the tincture from half a dr. to 2 dr.

Order 6.—HEXANDRIA.

488. SMILAX. (Sarsaparilla.) *Nat*: Order, sarmentaceæ — ESSENTIAL CHAR: *Calyx* six-leaved. *Corolla* none. Female: *Styles* three. *Berry* three-celled. *Seeds* two

S. SARSAPARILLA. — SPECIFIC CHAR: *Stem* prickly, angular. *Leaves* unarmed, ovate, retuse-mucronate, three-nerved.

Place.—Virginia, Mexico.

Quality.—Dry, glutinous.

Power.—Diuretic, sudorific, purifying.

Use.—The root, in syphilis, arthritis, and cachexia.

The decoction of sarsaparilla is found of use in certain cutaneous and rheumatic affections, which are frequently produced by mercury. One or two pints of it may be taken daily.

489. SMILAX. CHINA. (Chinese Smilax.)—SPECIFIC CHAR: *Stem* prickly, roundish. *Leaves* unarmed, ovate, cordate, five-nerved.

Place.—Persia, China, Japan.

Quality.—Dry.

Power.—Purifying.

Use.—The root, in syphilis and gout.

Order 7.—OCTANDRIA.

490. POPULUS. (Poplar.) *Nat: Order*, amentaceæ.
—ESSENTIAL CHAR: *Calyx* of the ament a flat scale torn at the edge. *Corolla* turbinate, oblique, entire. *Female: Stigma* four-cleft. *Capsules* two-celled. *Seeds* many, pap-pose.

P. NIGRA.—SPECIFIC CHAR: *Leaves* smooth on both sides, acuminate, serrate, deltoid; the longitudinal diameter longer.

Place.—South of Europe.

Quality.—Resinous.

Power.—Blunting, emollient, sudorific.

Use.—The buds, in diarrhoea, dysentery, arthritis, and burns.

491. **POPULUS. BALSAMIFERA.** (Common Poplar Tree.)—**SPECIFIC CHAR:** *Leaves* ovate, serrate, whitish underneath. *Stipules* resinous.

Place.—Mexico, Madagascar.

Quality.—The gum, friable, subdiaphanous.

Power.—Maturating.

Use.—The resin, in pains, tooth-ache, vomiting, hysterics, asthma.

492. **RHODIOLA.** (Rosewort.) *Nat. Order*, succulentæ.—**ESSENTIAL CHAR:** Male: *Calyx* four-parted. *Corolla* four-petalled. *Nect.* four. Female: *Calyx* four-parted. *Corolla* four-petalled. *Nect.* four. *Pistils* four. *Capsules* four, many-seeded.

R. ROSEA.—**SPECIFIC CHAR:** *Leaves* ovate, serrate towards the top. *Stem* upright.

Place.—The Alps of Lapland.

Quality.—Styptic, fragrant, having the smell of roses.

Power.—Astringent.

Use.—The root, in hernia, leucorrhœa, cephalagia, hysterics, dysentery.

Order 8.—ENNEANDRIA.

493. **MERCURIALIS.** (Mercury.) *Nat: Order*, tricoccæ.—**ESSENTIAL CHAR:** Male: *Calyx*, three-parted. *Corolla* none. *Stamens* nine or twelve. *Anthens* globular, twin. Female: *Calyx* three-parted. *Corolla* none. *Styles* two. *Capsules* dicoccous, two-celled, one-seeded.

M. ANNUA.—**SPECIFIC CHAR:** *Stem* brachiate. *Leaves* smooth. *Flowers* in spikes.

Place.—Italy, England and France.

Quality.—Suspicious.

Power.—Purging, repellent, cosmetic.

Use.—The herb, in syphilis.

Order 9.—DODECANDRIA.

494. MENISPERMUM. (Moonseed.) *Nat: Order*, sarmentaceæ.—**ESSENTIAL CHAR:** Male: *Petals* four outer, eight inner. *Stamens* sixteen. Female: *Corolla* as in the male. *Stamens* eight, barren. *Berries* two. *Seed* one.

M. COCCULUS.—**SPECIFIC CHAR:** *Leaves* cordate, retuse, mucronate. *Stem* jagged.

Place.—Malabar.

Quality.—Poisonous.

Power.—Sudorific, maddening.

Use.—The fruit, for killing of lice, and stupifying fish, and also men by shamefully and wickedly adulterating beer.

An ointment made with it has long been a domestic remedy to kill vermin on the head, and is successfully used in cases of *tinea capitis*.

Order 10.—MONADELPHIA.

495. JUNIPERUS. (Juniper.) *Nat: Order*, coniferæ.—**ESSENTIAL CHAR:** Male: *Calyx* of the ament a scale. *Corolla* none. *Stamens* three. Female: *Calyx* three-parted. *Petals* three. *Styles* three. *Berry* three-celled, irregular with the three tubercles of the calyx.

J. COMMUNIS.—**SPECIFIC CHAR:** *Leaves* in threes, spreading, mucronate, longer than the berry.

Place.—Woods of Europe.

Quality.—Dry, aromatic.

Power.—Emmenagogue, abortive, anthelmintic, exanthematic, diuretic.

Use.—The wood, and resin, in calculus, asthma, catarrh, worms.

The resin is called Venice turpentine. The oil is stimulating, carminative, diaphoretic, and diuretic; the berries and tops are commonly used in the form of infusion as a diuretic drink in dropsy. The peculiar flavour and well-known diuretic effects of Hollands are owing to the oil of juniper.

496. JUNIPERUS. LICIA. (Lycian Juniper.)—

SPECIFIC CHAR: *Leaves* in threes, imbricate on all sides, ovate, obtuse.

Place.—Africa and Arabia.

Quality.—Resinous, pellucid.

Power.—Vulnerary.

Use.—The resin, in pleurisy, ophthalmia, catarrh.

This plant furnished the frankincense of the ancients; and the diffusion of its vapour around the altar still forms part of the ceremonies of the Greek and Roman Catholic Churches.

497. JUNIPERUS. SABINA. (Savin.)—SPE-

CIFIC CHAR: *Leaves* opposite, erect, decurrent.

Place.—Siberia, Tartary, Olympus.

Quality.—Goaty.

Power.—Emmenagogue, anthelmintic, diuretic.

Use.—The herb, in tooth-ache, tinea, gangrene, scabies.

This is a warm stimulating medicine; it increases all the secretions, but is apt to excite hæmorrhagy, especially from the uterus. A conserve of the fresh leaves is exhibited internally, in doses of from half a dr. to a dr.

An excellent issue ointment is prepared with the powder, known by the name of cerate of savine. It is likewise applied externally as an irritant to watery excrescences, ulcers, &c.

498. **CISSAMPELOS.** (Cissampelos.) *Nat* : Order, sarmentaceæ. — **ESSENTIAL CHAR** : Male : *Calyx* four-leaved. *Corolla* none. *Nectary* wheel-shaped. *Stamens* four, with connate filaments. Female : *Calyx* one-leaved. *Ligulate* roundish. *Corolla* none. *Styles* three. *Berry* one-seeded.

C. PAREIRA.—**SPECIFIC CHAR** : *Leaves* peltate, cordate, emarginate and entire.

Place.—South America.

Quality.—A sweet-bitter.

Power.—Diuretic, demulcent, purifying.

Use.—The root, in calculus, difficulty of passing water, arthritis, gout, dropsy, gonorrhœa, jaundice.

Order 12.—SYNGENESIA.

499. **RUSCUS.** (Butchers' Broom.) *Nat* : Order, sarmentaceæ. — **ESSENTIAL CHAR** : *Calyx* six-leaved. *Corolla* none. *Nect.* central, ovate, perforated at the top. Female : *Style* one. *Berry* three-celled. *Seeds* two.

R. ACULEATUS.—**SPECIFIC CHAR** : *Leaves* ovate, mucronate, pungent, above floriferous, naked, *Branches* stiff.

Place.—Italy and France.

Quality.—Somewhat sweet.

Power.—Strengthening, emmenagogue, diuretic.

Use.—Root and seeds, in dropsy, ascites, jaundice.

500. **RUSCUS. HYPOGLOSSUM.** (Broadleaved Butchers' Broom.)—**SPECIFIC CHAR** : *Leaves* floriferous underneath naked.

Place.—Hungary.

Quality.—Styptic, insipid, inodorous.

Power.—Astringent.

Use.—The herb, in the falling down of the uvula.

An infusion, made of the herb, is used as a gargle.

CLASS XXIII.—POLYGAMIA.

Order 1.—MONÆCIA.

501. OPHIOXYLON. (Ophioxylon.) *Nat: Order*, apocynææ. — *ESSENTIAL CHAR: Bisexual: Calyx* five-cleft. *Corolla* five-cleft, funnel-form. *Stamens* five. *Pistil* one. *Male: Calyx* bifid. *Corolla* five-cleft, with a funnel-form mouth. *Nect.* cylindric. *Stamens* two.

O. SERPENTINUM. — *SPECIFIC CHAR: Leaves* three, at each internode.

Place.—Ceylon.

Quality.—Bitter.

Power.—Expelling, sudorific.

Use.—The wood, in bites and quartans.

502. ANDROPOGON. (Andropogon.) *Nat: Order*, gramineææ. — *ESSENTIAL CHAR: Bisexual: Calyx - glume* one-flowered. *Corolla - glume* awned at the base. *Stamens* three. *Styles* two. *Seed* one. *Male: Calyx* and *Corolla* the same. *Stamens* three.

A. SCHÆANTHUS. — *SPECIFIC CHAR: Spike* of the panicle conjugate, ovate, oblong. *Rachis* pubescent. *Floscules* sessile, with a twisted awn.

Place.—Arabia.

Quality.—Fragrant.

Power.—Emmenagogue, carminative.

Use.—The herb, in vomiting, and ulcers of the bladder.

503. ANDROPOGON. NARDUS. (Andropogon.)
—SPECIFIC CHAR: *Branches* of the panicle superdecomposed, proliferous.

Place.—Ceylon.

Quality.—Fragrant.

Power.—Alexipharmic, cordial, stomachic, and anthelmintic.

Use.—The root, in debility and hæmorrhagies.

504. VERATRUM. (Hellebore.) *Nat: Order*, multisi-
lriquæ.—ESSENTIAL CHAR: *Calyx* none.
Petals five or more. *Nect.* two-lipped, tubu-
lar. *Capsules* many-seeded.

V. ALBUM.—SPECIFIC CHAR: *Branches* super-
decomposed. *Corollas* erect.

Place.—Russia, Siberia, Austria, Helvetia, Italy,
the mountains of Greece.

Quality —Acrid, nauseous.

Power.—Drastic, emetic, sternutatory.

Use.—The root, in mania, epilepsy, scabies, and
quartans.

The powder of the dried root, applied to an issue, occasions violent purging; snuffed up the nose, it proves a strong, but not always a safe sternutatory. Taken internally, it acts with extreme violence as an emetic, and has been observed, even in a small dose, to occasion convulsions, and even death. The ancients always made this their last resource.

505. PARIETARIA. (Pellitory.) *Nat: Order*, sca-
bridæ.—ESSENTIAL CHAR: Two bisexual
flowers, and one female flower, in a flat six-
leaved involucre. *Calyx* four-cleft. *Corolla*
none. *Style* one. *Seed* one, superior, elon-
gated. Bisexual: *Stamens* four. Female:
Stamens none.

P. OFFICINALIS.—SPECIFIC CHAR: *Leaves* lan-
ceolate-ovate. *Peduncles* dichotomous. *Ca-
lyxes* two-leaved.

Place.—The walls and uncultivated places of the South of Europe.

Quality.—Aqueous-insipid.

Power.—Emolient, diuretic, obtunding.

Use.—The herb, in dropsy, calculus, tabes, strangury, and cough.

The expressed juice, sweetened with sugar, is a powerful diuretic, but it is now seldom used.

506 **ATRIPLEX.** (Orache.) *Nat. Order*, holoraceæ.

—**ESSENTIAL CHAR**: Bisexual: *Calyx* five-leaved. *Corolla* none. *Stamens* five. *Style* two-parted. *Seed* one, depressed. Female: *Calyx* two-leaved. *Corolla* none. *Stamens* none. *Style* two-parted. *Seed* one, compressed.

A. HORTENSIS.—**SPECIFIC CHAR**: *Stem* erect, herbaceous. *Leaves* triangular.

Place.—Siberia.

Quality.—Oleraceous.

Power.—Diluting, cooling.

Use.—The herb, in inflammations; seeds, in rickets.

507. **MIMOSA.** (Acaciæ.) *Nat. Order*, lomentaceæ.

—**ESSENTIAL CHAR**: Bisexual: *Calyx* five-toothed. *Corolla* five-cleft. *Stamens* five or more. *Pistil* one. Male: *Calyx* five-toothed. *Corolla* five-cleft. *Stamens* five, ten or more.

M. NILOTICA.—**SPECIFIC CHAR**: *Spines* stipulary, spreading. *Leaves* bipinnate, the outer partial ones separated by a gland. *Spikes* globular, peduncled.

Place.—Rocky parts of Arabia and Egypt.

Quality.—Juice styptic; the gum mucilaginous.

Power.—Astringent, obtunding, lubricating, nourishing.

Use.—The juice, in hæmoptysis, menorrhagia; the gum, in ophthalmia, coughs.

This tree produces the gum arabic, so valuable a demulcent, in coughs, hoarseness, and other catarrhal affections. It obtunds irritating acrimonious humours, and supplies the loss of abraded mucus.

508. MIMOSA. SENEGAL. (Senegal)—SPECIFIC CHAR: *Spines* in threes, the middle one reflex. *Leaves* bipinnate. *Flowers* in spikes.

Place.—Arabia.

The same virtues as the last.

Order 2.—DIÆCIA.

509. FRAXINUS. (Ash Tree.) *Nat*: *Order*, olcinæ.
—ESSENTIAL CHAR: Bisexual: *Calyx* none, or four-parted. *Corolla* none, or four-petalled. *Stamens* two. *Pistil* one. *Seed* (or *Capsule*) one, lanceolate. *Female*: *Pistil* one, lanceolate.

F. EXCELSIOR.—SPECIFIC CHAR: *Leaflets* lanceolate, serrate, sessile. *Flowers* without petals.

Place.—The meadows of Europe.

Quality.—Bark, bitter; seeds, aromatic.

Power.—Astringent; seeds, drying; salts, diuretic.

Use.—The wood, bark, leaves, and seeds, in hæmorrhage, tertians; the leaves, in the bite of serpents; the seeds in obesity.

510. FRAXINUS. ORNUS. (Flowering Ash Tree.)
—SPECIFIC CHAR: *Leaflets* ovate-oblong, serrate, petioled. *Flowers* with petals.

Place.—Calabria in Italy, Sicily.

Quality.—Honey-like, granulated, red, subdiaphanous, sweet.

Power.—Obtunding.

Use.—Manna, as a gentle laxative, especially for children, in the nephritic colic, and humoral asthma.

Dose, from 2 dr. to an oz.

511. PANIX. (Ginseng.) *Nat: Order*, hederaceæ.
—*ESSENTIAL CHAR*: An umble. *Corolla* five-petalled. *Stamens* five. *Bisexual*: *Calyx* five-toothed. *Superior Styles* two. *Berry* two-seeded. *Male*: *Calyx* entire.

P. QUINQUEFOLIUM.—*SPECIFIC CHAR*: *Leaves* torn, quinate.

Place.—Canada, Tartary.

Quality.—Aromatic.

Power.—Cordial, analeptic.

Use.—The ginseng root is much used in China, in debility, marasmus, and old age.

The dose of the powdered root is from a scruple to half a dr.

Order 3.—TRIÆCIA.

512. CERATONIA. (Carob Tree.) *Nat: Order*, lo-mentaceæ. — *ESSENTIAL CHAR*: *Bisexual*: *Calyx* five-parted. *Corolla* none. *Stamens* five. *Style* filiform. *Legume* coriaceous, many-seeded.

C. DIÆCEOUS.—Male and Female separate.

Place.—Judea, Syria, Apulia, Sicily.

Quality.—Sweet, dry.

Power.—Expectorant.

Use.—The siliqua, in hoarseness, asthma, cough, ophthalmia.

513. **FICUS.** (Fig Tree.) *Nat: Order*, scabridæ.—

ESSENTIAL CHAR: *Receptacle* common, turbinate, fleshy, converging, concealing the floscules, either on the same or a distinct individual. *Male: Calyx* three-parted. *Corolla* none. *Stamens* three. *Female: Calyx* five-parted. *Corolla* none. *Pistil* one. *Seed* one.

F. CARICA.—**SPECIFIC CHAR:** *Leaves* palmate, sub-trilobate, rugged underneath. *Fruit* smooth, pear-shaped, umbilical.

Place.—Greece, Spain, and Italy.

Quality.—sweet, mucilaginous.

Power.—Lubricating, obtunding.

Use.—The fruit, in coughs, painters' colic, and constipation; and as a drink, in eruptive fevers.

Externally applied they are supposed to promote the suppuration of tumours; with this intention they are also sometimes used by themselves, as warm as they can easily be borne, to phlegmons of the gums, and other parts where a poultice cannot conveniently be applied.

CLASS XXIV.—CRYPTOGAMIA.

Order 1.—FILICES.

514. CYCAS. (Cycas.) *Nat: Order*, palms.—**ESSENTIAL CHAR:** Male: *Ament* strobile-form, with the scales covered every where beneath with pollen. Female: *Spadix* sword-form; germ immersed into the corners of it, solitary. *Style* one. *Drupe* with a woody nut.

C. CIRCINALIS.—**SPECIFIC CHAR:** *Fronde* pinnate. *Leaflets* linear, flat.

Place.—Malabar.

Use.—Sago is used as food.

515. EQUISETUM. (Horsetail.) *Nat: Order*, filices.

E. ARVENSE.—**SPECIFIC CHAR:** Fruit-bearing. *Scapula* naked, barren, leafy.

Use.—The herb, in discharges, and phthisis.

516. ASPLENIUM. (Spleenwort.) *Nat: Order*, filices.—**GENERIC CHAR:** *Fructifications* disposed in right lines along the under disk of the frond.

A. SCOLOPENDRIUM.—**SPECIFIC CHAR:** *Fronde* simple, cordate-lingulate, quite entire. *Stipes* hirsute.

Use.—The herb, in hæmoptysis, hysterics, wastings.

These plants are usually directed in infusion or decoction, with the addition of a little liquorice. There is a pleasant syrup prepared from them with an admixture of orange flower water.

517. **ASPLENIUM. CETERACH.** (Common Spleenwort.)—**SPECIFIC CHAR:** *Fronds* pinnatifid. *Lobes* alternate, confluent, obtuse.

Place.—Italy.

Use.—The herb, in dropsy, asthma, visceral obstructions.

It is used in the same way as the last.

518. **ASPLENIUM. TRICOMANES.** (Common Maidenhair.)—**SPECIFIC CHAR:** *Fronds* pinnate. *Pinnas* roundish, crenate.

Place.—Rocks of Europe.

Use.—The herb, in phthisis, and coughs.

519. **ASPLENIUM. RUTA.** (Wall Rue.)—**SPECIFIC CHAR:** *Fronds* alternately decom-pound. *Leaflets* wedge-shaped, crenulate.

Place.—Europe.

Use.—The herb, in scurvy, wastings.

520. **POLYPODIUM.** (Polypody.) *Nat:* *Order,* filices. — **GENERIC CHAR:** *Capsules* distributed in roundish dots, on the back or lower surface of the frond.

P. VULGARE.—**SPECIFIC CHAR:** *Fronds* pinnatifid. *Pinnas* oblong, subserrate, blunt. *Root* scaly.

Place.—Rocks of Europe.

Use.—The root, in colic, and coughs.

This is a useful demulcent or pectoral; joined with liquorice-root its good effects have been experienced in coughs and asthmatic affections. The root in its recent state acts as a cathartic.

521. **POLYPODIUM. FILIX.** (Female Polypody.)
—SPECIFIC CHAR: *Frond* bipinnate. *Pinnules* lanceolate, pinnatifid, acute.

Place.—Rocks of Europe.

Use.—The root, in coughs, tenia.

The root of this plant is the celebrated remedy for the cure of tape-worm, purchased by the French King, and published by his order. Two or 3 dr. of the powder-root to be taken in the morning while in bed; the powder must be washed down with a draught of cold water; and two hours afterwards a strong cathartic, composed of scammony, is to be given proportioned to the strength of the patient. The dose for infants is 1 dr. of the powdered-root.

522. **ADIANTUM.** (English Maidenhair.) *Nat:*
Order, filias.—GENERIC CHAR: *Fructifications* assembled in oval spots, at the ends of the fronds, which are turned back, or at the reflex tip of the frond underneath.

A. **CAPILLUS VENERIS.**—SPECIFIC CHAR: *Fronds* decompound. *Leaflets* alternate. *Pinnas* wedge-shaped, lobed, pedicelled.

Place.—Italy and France.

Use.—A syrup, in coughs, and as a pleasant drink.

Order:—It is called Capillair.—MUSCI.

523. **LYCOPODIUM.** (Wild Buglos.) *Nat:* *Order, fungi.*—GENERIC CHAR: *Fructifications* in the axils of the scales digested into oblong imbricate spikes, as of the leaves themselves, sessile. *Capsules* kidney-shaped, two-valved, elastic, many-seeded. *Veil* none. *Clavatum.*

Use.—The herb, in plica.

Order 3.—ALGÆ.

524. **LICHEN.** Males numerous, on a receptacle generally orbicular, large, shining, concave, glutinous. Female, farina sprinkled on the same, or on a separate plant.

525. **LICHEN ISLANDICUS.** (Iceland Moss.) and

526. **PULMONARIUS,** are given in coughs, and hæmoptysis.

Place.—The mountains of Europe.

Quality.—Farinaceous.

Use.—The herb, in consumption.

527. **APHTHOSUS,** in aphtha.

528. **CANINUS,** in hydrophobia.

529. **COCCIFERUS,** in convulsive coughs.

Order 4.—FUNGI.

530. **LYCOPERDON. BOVISTA.** (Puff Ball.)

Place.—In the dry meadows of Europe.

Quality.—Styptic, astringent, absorbing, blunting.

Use.—The powder, to stop blood in amputation.

APPENDIX.

530. CUBEBA. (Cubebs.) A species of pepper.

Place.—The woods of Java.

Quality.—Acrid, aromatic, slightly bitter.

Power.—Warm, carminative.

Use.—The cubebs, in giddiness, defect of imagination.

Cubebs are considered a valuable remedy in gonorrhœa. The powder is the best form in which they can be administered. The dose of the powder is from a scruple to a drachm and a half, four times a day.

531. AMMONIACUM. (A gum-resin.) *Nat: Order*, umbellata.—*ESSENTIAL CHAR: Fruit* elliptical, emarginate, compressed, striated, margined. *Corolla* difform, inflex, emarginate. *Involucre* caducous.

Place.—The west of Egypt, now the kingdom of Barca.

Quality.—Smell strong, taste nauseous, sweetish bitter.

Power.—Resolving, promoting insensible perspiration, diuretic, gently cathartic.

Use.—The gum, in hysterics, asthma, constipation, stranguary.

The dose of ammoniacum is from ten to thirty grains.

532. MYRRHA. (A gum-resin.)

Place. — Abyssinia and the eastern coasts of Arabia Felix.

Quality.—Fragrant, bitter, subacid, aromatic.

Power.—Balsamic, tonic, destroying worms, expectorant.

Use.—The gum, in gangrene, ulcers, scurvy, wasting.

Myrrh is given in substance, or in the form of watery infusion, or of tincture properly diluted. The watery infusion is much less stimulant than any of the other preparations. Dose of the powder, ten grains to a drachm; of the tincture, half a drachm to a drachm.

533. MIMOSA. (Catechu.)—SPECIFIC CHAR:

Leaves doubly-winged and placed alternately on the younger branches. *Corolla* monopetalous, whitish, twice the length of the calyx.

Place.—The mountains of Kanhana in Hindostan.

Quality.—A gum-resin, bitterish, astringent, inodorous, at first somewhat sweet, afterwards more sweet, styptic.

Power.—Astringent.

Use.—The gum, in profluvia, diarrhœa, sponginess of the gums, and apthous ulcerations of the mouth and fauces.

The dose of catechu may be from ten grains to a drachm.

534. AGALLOCHUM.

Place.—China.

Quality. — Milky, medulla of the trunk most sweet.

Power.—Poisonous, excoriating, making drunk, destroying worms.

Use.—In cholera, paralysis, gout.

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Agrimony, Common	Agrimonia Eupatoria	
———, Hemp	Eupatorium Cannabinum	
Alder, Berry-bearing	Rhamnus Frangula	
Almond, Peach	Amygdalus Persica	
———, Common.....	——— Communis	
Anise	Pimpinella Anisum	
Aniseed Tree	Illicium Anisatum	
Angelica, Garden	Angelica Archangelica	
———, Wild	——— Sylvestris	
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Arache, Great Shrubby.....	Atriplex Hortensis	
Archangel, White	Lamium Album	
Arnica, Mountain	Arnica Montana	
Arnota, Common	Bixa Orleana	
Arrow Root	Maranta Arundinacea	
Asarabacca, European	Asarum Europæum	
Ash Tree, Common	Fraxinus Excelsior	
———, Flowering.....	——— Ornus	
Asparagus, Common.....	Asparagus Officinalis	
Asphodel, King's Spear	Asphodelus Ramosus	
Avens, Common.....	Geum Urbanum	
———, Water.....	Geum Rivale	

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Balm, Moldavian	Dracocephalum Moldavica
———, Officinal	Melissa Officinalis
Bark, Peruvian Officinal	Cinchona Officinalis
Barley, Two-rowed	Hordeum Distichum
Basil, Common	Ocimum Basilicum
Bean, Common Kidney.....	Phaseolus Vulgaris
Bean, Common	Vicia Faba
Bear's Breech.....	Acanthus

<i>English.</i>	<i>Latin.</i>
Bear Berries	Arbutus Uva-Ursi
Beet, Red and Green	Beta Vulgaris
——, White	—— Cicla
Berberry, Common	Berberis Vulgaris
Betony Wood, Official	Betonica Officinalis
Bind Weed, Square-stalked	Convolvulus Turpethum
———, Sea	——— Soldanella
Birch Tree, Common	Betula Alba
Birth Wort, Round-rooted	Aristolochia Rotunda
———, Long-rooted	——— Longa
———, Common	——— Clematitis
Bistort	Polygonum Bistorta
Bitter Sweet	Solanum Dulcamara
Bleaberry	Vaccinium Myrtillus
Blue Bottle	Centaurea Cyanus
Borage, Official	Borago Officinalis
Box Tree, Common	Buxus Sempervirens
Brook Lime	Veronica Beccabunga
Bryonia, White-berried	Bryonia Alba
Bubon, Lovage-leaved	Bubon Galbanum
Buckthorn, Purging	Rhamnus Catharticus
Buck Wheat	Polygonum Fagopyrum
Bugle, Pyramidical	Ajuga Pyramidalis
Bugloss, Official	Anchusa Officinalis
———, Dyers	——— Tinctoria
Burdock, Common	Arctium Lappa
———, Small	Xanthium Strumarium
Burnet, Official Great	Sanguisorba Officinalis
Butcher's Broom, Prickly	Ruscus Aculeatus
——— Thick-leaved	——— Hypoglossum
Butterbur	Tussilago Petasites

C.

Cabbage, Esculent	Brassica Oleracea
———, Striped Flowered	——— Eruca
Calamint Major	Melissa Calamintha
Canary Grass, Common	Phalaris Canariensis
Caper Tree, Common	Capparis Spinosa
Capsicum, Long-podded	Capsicum Annum
Carline, Stemless	Carlina Acaulis
Carob Tree, Common	Ceratonia
Carraway, Common	Carum Carui
Carrot, Common	Daucus Carota
Cashew Nut, Common	Anacardium Occidentalis
Cassia, Egyptian	Cassia Senna
———, Purging	——— Fistula
Castor Oil Tree	Ricinus Communis
Cat Thyme	Teucrium Marum
Catechu	Mimosa Catechu
Celery	Apium Graveolens
Celandine Major	Chelidonium Majus
Centaury, Saw-leaved	Centaurea Behen
Chamomile, Common	Anthemis Nobilis
———, Wild	Matricaria Chamomilla

<i>English.</i>	<i>Latin.</i>
Chaste Tree, Common	Vitex Agnus Castus
Cherry Tree, Common	Prunus Cerasus
————, Small Fruit	———— Avium
Chervil	Scandix Cerefolium
Chesnut, Spanish	Fagus Castanea
————, Common	———— Sylvatica
Chocolate Nut Tree	Theobroma Cacao
Cinquefoil	Potentilla Anserina
————, Creeping	———— Reptans
Cistus, Cretan	Cistus Creticus
Cloud Berry	Rubus Chamæmorus
Club Moss, Common	Lycopodium Clavatum
Coffee Tree, Arabian	Coffea Arabica
Collinsonia, Nettle-leaved	Collinsonia Canadensis
Colt's Foot, Common	Tussilago Farfara
Columbine, Common	Aquilegia Vulgaris
Comfrey, Official	Symphytum Officinale
Cordia, Smooth-leaved	Cordia Myxa
Coriander, Official	Coriandrum Sativum
Cork Tree	Quercus Suber
Costus, Smooth-leaved	Costus Arabicus
Cotton, Common Lavender	Santolina Chamæcyparissus
Couch Grass	Triticum Repens
Cow Bane	Cicuta Virosa
Cowslip	Primula Veris
Crocus, Spring	Crocus Sativus
Croton, Linear-leaved	Croton Cascarilla
————, Purging	———— Tiglium
Cucumber, Common	Cucumis Sativus
————, Bitter	———— Colocynthis
————, Squirting	Momordica Elaterium
Cud Weed	Gnaphalium Arenarium
Cumin, Official	Cuminum Cyminum
————, Wild	Lagæcia Cuminoides
Currant, Red	Ribes Rubrum
————, Black	———— Nigrum
Cycas, Broad-leaved	Cycas Circynalis
Cyclamen, European	Cyclamen Europæa
Cypress, Common	Cupressus Sempervirens

D.

Daisy, Ox-eyed	Chrysanthemum Leucanthemum
Dandelion, Common	Leontodon Taraxacum
Devil's Bit	Scabiosa Succisa
Dill, Garden	Anethum Graveolens
Dittany of Crete	Origanum Dictamnus
Dock, Bloody-veined	Rumex Sanguineus
——, Water	———— Aquaticus
Dodder, Common	Cuscuta Europæa
Dorstinia, Angular-leaved	Dorstinia Contrajerva
Dragon's Head, Balm of Gilead ..	Dracocephalum Canariense
Drop-Wort	Spiræa Filipendula
Dutch Clover	Trifolium Repens

<i>English.</i>	<i>E.</i>	<i>Latin.</i>
Elder, Dwarf	Sambucus	Ebulus
—, Common	—	Niger
Elm Tree, English	Ulmus	Campestris
Endive	Cichorium	Endivia
Epidendron, Aromatic	Epidendrum	Vanilla
Eryngo, Field	Eryngium	Campestre
Eye-bright, Official	Euphrasia	Officinalis

F.

Fagaria, Lentiscus-leaved	Fagaria	Pterota
Fennel	Anethum	Fæniculum
—, Small-flowered	Nigella	Sativa
Fig Tree, Common	Ficus	Carica
— Wort, Knobby-rooted	Scropularia	Nodosa
—, Water	—	Aquatica
Fir, Scotch	Pinus	Sylvestris
—, Stone	—	Pinea
—, Common Larch	—	Larix
—, Norway Spruce	—	Abies
Flix Weed	Sisymbrium	Sophia
Fraxinella, Common	Dictamnus	Albus
Fumatory, Official	Fumaria	Officinalis

G.

Galangale	Kæmpferia	
Galingale, English	Cyperus	Longus
Garlic, Long-rooted	Allium	Victorialis
—, Common	—	Sativum
Garden Cress	Lepidium	Sativum
Genista, Canary	Genista	Canariensis
—, Dyer's	—	Tinctoria
Gentian, Yellow	Gentiana	Lutea
—, Autumnal	—	Amarella
Germander, Water	Teucrium	Scordium
—, Wall	—	Chamædrys
Ginger, Narrow-leaved	Amomum	Cardamomum
Ginseng	Panax	Quinquefolium
Goat's Beard	Tragopogon	Pratense
Golden Rod, Common	Solidago	Virga Aurea
Goose Root, Red	Chenopodium	Rubrum
—, Cut-leaved	—	Botrys
—, Shrubby	—	Anthelminticum
Gourd Bottle	Cucurbita	Lagenaria
Grains of Paradise	Amomum	Granum Paradisi
Grape, Common	Vitex	Vinifera
Ground Pine	Teucrium	Chamæpytis
Gromwell, Official	Lithospermum	Officinalis
Guajacum, Official	Guajacum	Officinale
Gum Arabic	Mimosa	Nilotica

H.

Hart Wort, Official	Tordylium	Officinale
Hawk Weed, Mouse-ear	Hieracium	Pilosella
Hawthorn White Beam	Cratægus	Aria

<i>English.</i>	<i>Latin.</i>
Hazel Nut Tree, Common	Corylus Avellana
Hellebore, Black	Helleborus Niger
———, White	Veratrum Album
Hemp, Common	Canabis Sativa
Henbane, Black	Hyoscyamus Niger
Hepatica	Anemone Hepatica
Herb Robert	Geranium Robertianum
Hibiscus Musk	Hibiscus Abelmoschus
Holly Dahoon	Ilex Cassine
Hone Wort, Hedge	Sison Ammi
Hop, Common	Humulus Lupulus
Horehound	Marubium Vulgare
Horsetail, Common	Equisetum Arvense
Hound's Tongue, Official	Cynoglossum Officinale
House Leek, Common	Sempervivum Tectorum
Hyssop, Hedge Official	Gratiola Officinalis
———, Official	Hyssopus Officinalis

J.

Jalap	Convolvulus Jalappa
Jasmine, White	Jasminum Officinale
Indian Cress	Tropæolum Major
Indigo, Dyer's	Indigofera Tinctoria
Inula, Elecampane	Inula Helenium
———, Middle Flea-Bane	——— Dysenterica
Ipecacuan	Viola Ipecacuanha
Iris, German	Iris Germanica
———, Florentine	——— Florentina
Juniper, Common	Juniperus Communis
———, Lycian	——— Lycia
———, Savin	——— Sabina
Ivy, Common Ground	Glechoma Hederacea
———, Common	Hedera Helix

K.

Knot Grass	Polygonum Aviculare
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L.

Ladies' Mantle, Common	Alchemilla Vulgaris
———Bed Straw, or Cheese-Rennet	Gallium Verum
Larkspur, Branching	Delphinium Consolidum
Laser-Wort, Broad-leaved	Laserpitium Latifolium
——— Mountain	——— Siler
Laurel, Spurge	Daphne Laureola
———, Cinnamon	Laurus Cinnamomum
———, Bastard	——— Cassia
———, Camphire	——— Camphora
———, Sweet Bay	——— Nobilis
———, Sassafras Tree	——— Sassafras
———, Common	Prunus Laurocerasus
Lavender, Common	Lavandula Spica
———, French	——— Stæchas
Lawsonia, Smooth	Lawsonia Inermis
Lead-Wort	Plumbago Europæa

<i>English.</i>	<i>Latin.</i>
Ledum, Mrash	Ledum Palustre
Leek, Common	Allium Porrum
Lemon Grass	Andropogon Schænanthus
——— Tree	Citrus Medica
Leopard's-Bane, Great	Doronichum Pardalianches
Lettuce, Garden	Lactuca Sativa
Lily of the Valley	Convallaria
——— White	Lilium Candidum
——— Water	Nymphæa Alba
Lime Tree, Common	Tilia Europæa
Liquidamber, Maple-leaved	Liquidamber Styraciflua
Liquorice, Common	Glycyrrhiza Glabra
Lobelia, Blue-flowered	Lobelia Syphilitica
Locust Tree, Two-leaved	Hymenæa Courbaril
Logwood, Common	Hæmatoxylon Campechianum
Louse-Wort, Marsh	Pedicularis Palustris
Lovage, Common	Ligusticum Levisticum
Lung-Wort	Pulmonaria Officinalis
Lupin, White	Lupinus Albus

M.

Madder, Dyer's	Rubia Tinctoria
Maiden Hair	Asplenium Trichomanes
Melaleuca, Aromatic	Melaleuca Leucadendron
Mallow, Rose	Alcea Rosea
———, Marsh	Althæa Officinalis
———, Round-leaved	Malva Rotundifolia
Mandrake	Atropa Mandragora
Marjoram, Cretan	Origanum Creticum
———, Common	——— Vulgare
———, Sweet	——— Marjorana
Marygold, Common	Calendula Officinalis
Master-Wort, Common	Imperatoria Ostruthium
Mastic Tree	Pistacia Lentiscus
Maudlin, Sweet	Achillca Ageratum
May Weed	Anthemis Cotula
Meadow, Sweet	Spiræa Ulmaria
Mellon	Cucumis Melo
———, Water	Cucurbita Citrullus
Mercury, English	Chenopodium Bonus Henricus
———, Annual	Mercurialis Annua
Mespilus, Common	Mespilus Germanica
Mezereon	Daphne Mezereum
Millet Grass	Panicum Miliaceum
Mint, Stinking	Mentha Auricularia
———, Wild	——— Sylvestris
———, Curled	——— Crispa
Mint, Pepper	Mentha Piperita
———, Pennyroyal	——— Pulegium
———, Common Cat	Nepeta Cataria
Misseltoe, Common	Viscum Album
Monarda, Hollow-stalked	Monarda Fistulosa
Money Wort	Lysimachia Nummularia
Monk's Hood	Aconitum Napellus

<i>English.</i>	<i>Latin.</i>
—— Rhubarb	Rumex Alpinus
Moonseed	Menispermum Cocculus
Mother-Wort	Leonurus Cardiaca
Mug-Wort	Artemisia Vulgaris
Mulberry, Common	Morus Nigra
Mullein, Great	Verbascum Thapsus
——, Black	—— Nigrum
Mustard, Official Hedge	Erysimum Officinale
——, Black Seed	Sinapis Nigra
Myrtle, Common	Myrtus Communis
——, Jamaica Pepper	—— Pimenta

N.

Nettle, Roman	Urtica Pilulifera
——, Common	—— Dioica
Nightshade, Deadly	Atropa Belladonna

O.

Oak, Common	Quercus Robur
Oat Grass, Cultivated	Avena Sativa
Olive Tree, European	Olea Europæa
Onion, Common	Allium Cepa
Ophioxylon, Red-flowered	Ophioxylon Serpentinum
Orange Tree	Citrus Aurantium
Orchis, Butterfly	Orchis Bifolia
——, Female	——, Morio

P.

Parsley, Common	Apium Petroselinum
——, Macedonian	Bubon Macedonicum
——, Common Cow	Chærophyllum Sylvestre
Parsnep, Garden	Pastinaca Sativa
——, Rough	—— Opopanax
Pasque Flower	Anemone Pulsatilla
Pea, Common	Cicer Arietinum
—— Garden	Pisum Sativum
Penæa	Penæa
Penny Cress	Thlaspi Arvense
Peony, Official	Pæonia Officinalis
Pepper, Black	Piper Niger
——, Long	—— Longum
Periwinkle, Lesser	Vinca Minor
Petiveria, Garlic-scented	Petiveria Alliacea
Phyllanthus, Shrubby	Phyllanthus Emblica
Physic Nut, Angular-leaved	Jatropha Curcas
Pile-Wort	Ranunculus Ficaria
Pillatory, Spanish	Anthemis Pyrethrum
——, Official	Parietaria Officinalis
Pimpernel, Red-flowered	Anagallis Arvensis
Pink, Clove	Dianthus Caryophyllus
Plantain, Greater	Plantago Major
Plum, Cultivated	Prunus Domestica
Poison-Nut	Strychnos Nux Vomica
Poke, Virginian	Phytolacca Decandra

<i>English.</i>	<i>Latin.</i>
Polypody, Common	Polypodium Vulgaris
Pomegranate, Common	Punica Granatum
Poplar, Black	Populus Nigra
Poplar, Balsam, or Tacamahac ..	Populus Balsamicus
Poppy, Red	Papaver Rhæas
——, Officinal	—— Somniferum
Puff Ball	Lycoperdon
Purslane, Garden	Portulaca Oleracea

Q.

Quassia, Bitter	Quassia Amara
Quince	Pyrus Cydonia

R.

Radish, Garden	Raphanus Sativus
——, Horse	Cochlearia Armoracea
Rape, Coleseed	Brassica Napus
Raspberry	Rubus Idæus
——, Dwarf	——, Arcticus
Rattle-Snake Root	Polygala Senega
Restharrow, Field	Ononis Arvensis
Rhubarb, Common	Rheum Rhaponticum
——, Officinal	—— Palmatum
Rice, Common	Oryza Sativa
Rosebay	Nerium Antidysentericum
Rose Root, Common	Rhodiola Rosea
——, Hundred Leaved	Rosa Centifolia
——, Damask	—— Damascena
——, Common Dog	—— Canina
——, White	—— Alba
Rosemary, Common	Rosmarinus Officinalis
Rue, Wall	Asplenium Ruta Muraria
——, Goats	Galega Officinalis
——, Common	Ruta Graveolens
Rupture-Wort, Smooth	Herniaria Glabra

S.

Saffron, Common Meadow	Colchicum Autumnale
——, Bastard	Carthamus Tinctorius
Sage, Officinal	Salvia Officinalis
——, Red-topped	—— Horminum
——, Clary	—— Sclarea
Saltwort, Marsh	Salicornea Herbacea
Sanicle, European	Sanicula Europæa
Sandlewood, White	Santalum Album
Sauce, Alone	Erysimum Alliarea
Savory, Summer	Satureja Hortensis
Saxifrage, Grain-rooted	Saxifraga Granulata
Scabious, Corn	Scabiosa Arvensis
Scammony	Convolvulus Scammonia
Scurvy-Grass, Officinal	Cochlearia Officinalis
Selfheal, Common	Prunella Vulgaris
Serpent-Root	Ophiorrhiza
Shepherd's Purse	Thalspi Bursa-Pastoris

English.

Latin.

Sloe	Prunus Spinosa
Smilax, Medicinal	Smilax Sarsaparilla
Snake-Root	Aristolochia Serpentaria
Snapdragon, Common Yellow ..	Antirrhinum Linaria
Sneeze-Wort	Achillea Ptarmica
Soap-Wort, Official	Saponaria Officinalis
Soapberry, Common	Sapindus Saponaria
Solomon's Seal, Sweet-scented ..	Convallaria Polygonatum
Sorrel, French	Rumex Scutatus
———, Common Wood	Oxalis Acetosella
———, Garden	Rumex Acetosa
Southernwood	Artemisia Abrotanum
Soy Dolichos	Dolichos Soja
Speedwell, Official	Veronica Officinalis
Spignel	Athamanta Cretensis
Spinach, Esculent	Spinacia Oleracea
Spleenwort, Hart's Tongue	Asplenium Scolopendrium
———, Common	——— Ceterach
Spotted Arum	Arum Maculatum
Spurge, Official	Euphorbia Officinalis
———, Caper	——— Lathyris
———, Marsh	——— Palustris
Squill, Official	Scilla Maritima
Staves-Acre	Delphinium Staphisagria
Storax, Official	Styrax Officinalis
Strawberry, Wood	Fragaria Vesca
St. John's Wort	Hypericum Perforatum
Succory, Wild	Cichorium Intybus
Sugar-Cane, Common	Saccharum Officinale
Sulphurwort, Official	Peucedanum Officinale
Sumach, Coriaria-leaved	Rhus Coriaria
———, Varnish	——— Vernix
———, Lentiscus-leaved	——— Copallinum
Sundew, Round-leaved	Drosera Rotundifolia
Swallowwort	Asclepias Vincetoxicum
Sweetear	Hedyotis Auricularia
Sweetflag	Acorus Calamus

T.

Tamarind-Tree, Common	Tamarindus Indicus
Tamarisk, French	Tamarix Gallica
Tansy, Common	Tanacetum Vulgare
Tea, New Jersey	Ceanothus Americanus
———, Bohea	Thea Bohea
Thistle, Milk	Carduus Marianus
———, Blessed	Centaurea Benedicta
———, Star	——— Calcitrapa
Thornapple, Downy	Datura Stramonium
Thoroughwax, Round-leaved ..	Bupleurum Rotundifolium
Thyme, Common	Thymus Vulgaris
Tormentil, Official	Tormentilla Officinalis
Tobacco, Virginian	Nicotiana Tabacum
Trefoil, Melilot	Trifolium Melilotus
———, Marsh	Menyanthus Trifoliatum

<i>English.</i>	<i>Latin.</i>
Turmeric, Longrooted	Curcuma Longa
Turnep	Brassica Rapa
Turpentine Tree	Pistacia Terebinthus

V.

Valerian, Officinal	Valeriana Officinalis
———, Garden	——— Phu
———, Celtic	——— Celtica
Vervain, Officinal	Verbena Officinalis
Vetch, Milk	Astragalus Tragacantha
Violet, Sweet	Viola Odorata
Viper's Grass, Dwarf	Scorzonera Humilis

W.

Wall Flower	Cheiranthus Cheiri
—— Pepper	Sedum Acre
Walnut, Common	Juglans Regia
Water Cress	Sysimbrium Nasturtium
—— Parsnep	Sium Ninsi
—— Caltrops, Floating	Trapa Natans
Winter Pepper	Polygonum Hydropiper
——— Wheat	Triticum Hybernum
——— Cherry, Common	Physalis Alkekangi
Wintergreen, Round-leaved	Pyrola Rotundifolia
White Wood	Anemone Nemorosa
—— Willow	Salix Alba
Winter's Bark	Winterania Canella
Wholesome Wolfsbane	Aconitum Anthora
Woodbine	Lonicera Periclymenum
Woodruff, Sweet-scented	Asperula Odorata
Wormgrass, Annual	Spigelia Anthelmintica
Wormwood, Roman	Artemisia Pontica
———, Common	——— Absinthium

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INSTITUTION

FOR THE CURE OF

Scrofula in all its Various Forms,

SCIRRHOUS TUMOURS IN THEIR INCIPIENT STAGE;

Cutaneous Diseases, Liver Complaints,

GOUT, RHEUMATISM, ASTHMA, DEBILITY,

And all Disorders arising from Derangement of the

DIGESTIVE ORGANS,

BY MR. WHITLAW,

No. 14, FINSBURY PLACE, SOUTH,

BY MEANS OF

American Vegetable Decoctions,

A SUITABLE PLAN OF DIET AND REGIMEN,

AND HIS

PATENT MEDICATED VAPOUR BATHS.

Properties of the different Numbers of the American Vegetable Decoctions.

- No. 1. Alterative Medicine.
- No. 2. Alterative and Purgative ditto.
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Besides a great variety of other Medicines, imported from America, comprising a complete *Materia Medica* from the Vegetable Kingdom.

PLAN OF DIET AND REGIMEN.

Unwholesome food, impure water, and irregularities in diet, being the primary causes of most chronic diseases, it is necessary that patients afflicted with the above-mentioned disorders, should pay the strictest attention to their mode of living, not only during the process of cure, but even afterwards; as the same causes that produced a disease will occasion its return.

Farinaceous Vegetables.—Bread, wheat and rye flour, oat, barley and pease meal, rice, arrow-root, sago, and tapioca, are recommended: but potatoes, and bread adulterated with potatoes and alum (*a species of fraud the most pernicious; because the alum, by constipating the bowels, and the potatoes, by fermenting in the stomach of those affected with indigestion, slowly induce many dangerous diseases*), are forbidden.

Boiled Vegetables.—Green pease, French and Windsor beans, cabbage, cauliflower, broccoli, Scotch-kale, turnip, spinach, beet-root, sea-kale, asparagus, artichoke, Jerusalem-artichoke, vegetable marrow, celery, dandelion, carrot, parsnip, leeks and onions, when thoroughly cooked, also pumpions and squashes, in all their various modes of cooking, are recommended.

Raw Vegetables.—Water-cress, American-cress, mustard and garden-cress, lettuce, endive, nasturtium, radish, scurvy-grass, corn-sallad and celery, are also recommended.

Fruit.—Acidity in the stomach being one of the most prominent symptoms of derangement of the digestive organs, the patients must abstain from fruit; especially from currants, gooseberries, grapes, plums, cherries, oranges, lemons, dried currants, raisins and prunes; from vinegar, pickles, and acids of all kinds.

Animal Food.—Milk, eggs, sweet butter, new cheese, the lean of mutton, beef, lamb, veal, fowls, turkeys, game and fish, thoroughly cooked, and oysters, shrimps, crabs and lobsters, may be eaten in moderation; but pork, the fat of meat, ducks, geese, and eels, rich soups, gravies, and other greasy substances, salt meat, rancid butter, and decayed cheese, are strictly forbidden.

Drink.—Water being the natural diluent and solvent of the food, and constituting the chief part of the fluids of the body, the purest and softest filtered rain or river water should be chosen, as being the most wholesome; but water containing putrescent animal and vegetable matter, hard pump or well water; chalybeate springs, or water impregnated with iron, and water contaminated with the oxide of lead, in consequence of passing through leaden pipes and remaining in leaden cisterns, is very deleterious; particularly in cases of Scrofula and Consumption, and therefore to be avoided.

Coffee, cocoa, chocolate, sage tea, British herb tea, toast-water, and spruce beer are allowed. But since, in all cases of debility, a large quantity of fluid is injurious, the patients should drink as little as possible; and, in order to diminish the necessity of drinking, they should abstain from salt, as it excites thirst, fever, and inflammation; and from China tea, wine, cider, perry, and malt liquors, as they entirely counteract the beneficial effects of the medicines.

Air and Exercise.—To promote the cure, it is indispensably necessary that patients, and particularly those afflicted with Scrofula, who are frequently averse to active exertion, should rise early and take as much exercise in the open air as can be borne without pain or excessive fatigue.

THE PATENT MEDICATED VAPOUR BATH,

Employed with the *Vegetable Decoctions*, is a powerful auxiliary in the cure of the above-mentioned diseases. The effects of the Vapour Bath are:—

1st.—To equalize the circulation of the blood, and hence to remove coldness of the hands and feet, and to lessen the determination or flow of blood to the head.

2d.—To promote sweat, and re-establish insensible perspiration, and thereby to relieve symptoms of internal inflammation.

3d.—To diminish nervous irritability; and in no instance has it failed to cure tic doloureux.

4th.—To promote cutaneous eruptions, and remove diseases of the skin.

5th.—To remove the effects of mercury from the system.

6th.—To promote absorption of Dropsical effusions.

7th.—To relieve difficulty of breathing, and hence to cure Asthma, and other diseases of the chest and lungs.

8th.—To strengthen the stomach, and impart a tone to the digestive organs, and cure dyspepsia, with its consequent disorders.

9th.—To promote the healing of Scrofulous and Chronic ulcers.

10th.—To remove Gouty and Rheumatic pains and swellings from the joints, and cure lumbago, sciatica, &c.

11th.—The Quinsy. The bath has never failed to relieve it.

12th.—The Croup. It may be regarded as a specific.

13th.—The Hooping Cough—gives great relief.

14th.—The Measles—no instance of death having taken place, when the bath has been employed.

15th.—To prevent and cure discharges of Blood from the Lungs and other internal organs of the body.

16th.—To cure Acute and Chronic Inflammation, the bath, judiciously medicated, is a certain specific.

17th.—To cure Gout, in all its forms, in a shorter period of time than any agent hitherto employed.

The AMERICAN VEGETABLE DECOCTIONS, combined with the use of the Vapour Bath, ample experience has proved to be invaluable remedies for the prevention and cure of the *Yellow and Putrid Fevers*; and they are, therefore, particularly recommended to persons going abroad to a hot climate.

Mr. Whitlaw informs his Friends and the Public, that he has recently imported from America a large and extensive collection of Medicinal Herbs, comprising a complete Materia Medica from the vegetable kingdom, applicable to the cure of most diseases with which mankind are afflicted. Mr. W. has likewise invented a new method of administering medicine by the agency of Steam or Vapour, for which he has obtained Letters Patent, both in this country and in the United States of America. He has sold his Patent-right to various companies established in America, where its operation has been attended with the most beneficial results; and the numerous reports that he has received of the success attending the administration of the Vegetable Vapour Bath, justify him in saying that it is a far more effectual means of relieving and curing diseases than any agent hitherto known in the history of medicine.

Persons residing at a distance from the metropolis, who may wish to place themselves or children under Mr. W.'s care, can be accommodated at his house at Bayswater, or at the Boarding Houses in the neighbourhood, with Board, Lodging, Medicines, Baths, etc., from 1/. 10s. to 3/. 3s. per week. The salubrity of the air, with the acquisition of Kensington Gardens, renders Bayswater one of the most desirable places near the metropolis.

The humane individuals in the various cities and town of Britain, who may wish to alleviate and cure the sufferings of their fellow men afflicted with the above dreadful disorders, may have the Patent Medicated Vapour Bath introduced at a very moderate expense by sending a person to be instructed in the mode of its application and medication, suitable to the various diseases for which it has been so successfully employed.

Mr. Whitlaw may be consulted every day at his establishment, No. 14, Finsbury Place South, London, where letters (post paid) containing a statement of cases, and enclosing a fee for advice, will be punctually answered; and Medicines, with proper instructions for use, for ready money only, forwarded to all parts of the kingdom.
